Buffalo Surveillance Server

Version 5.6.19

by BUFFALO

Administrator's Guide

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Welcome

Welcome to the Buffalo Surveillance Server Version 5.6.19.

The Buffalo Surveillance Server provides advanced video data storage management, including live video feed capture and complete video lifecycle management focused on the record, store, and manage aspects of a forensics-based video surveillance system. This highly scalable solution supports a wide variety of RTSP enabled IP cameras for real time and forensic video review.

See the Getting Started 15 section to get up and running quickly by enabling Buffalo Surveillance Server capabilities, configuring an IP camera, recording and storing video feeds, and searching for video clips.

- See the How To 34 sections for step-by-step overviews of commonly performed tasks.
- The rest of this guide includes advanced overview information as well as detailed directions about using Buffalo Surveillance Server functionality.

Complete Overarching Management

The Buffalo Surveillance Server properly manages the storage of video surveillance assets for long term retention. You can easily set up and configure the Buffalo Surveillance Server to record, store, and manage video feeds from up to ten RTSP enabled IP cameras.

As your needs increase, you can add additional surveillance-enabled storage devices to your network to increase retention, migrate and replicate your video assets, and add even more cameras. The system will automatically take advantage of the new storage resources. Replication and migration of video files to additional storage mediums, while fully managing the storage location of these video files, allows for rapid search and retrieval of relevant video scenes, regardless of how long ago they occurred.

The solution also enables the user to fully manage and track video feeds even when those video feeds have been migrated to secondary storage. Don't just "export" your video files to some other media, keep total control of all of your video feeds for as long as you want them.

This guide documents the Buffalo Surveillance Server and avoids documenting OS procedures.

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Contact Information

Please contact us with any comments or suggestions regarding how we can improve our products or documentation.

Buffalo Technology.

Documentation Overview

Notes About this Guide

Screen shots	The screen images in this guide are taken from Buffalo Surveillance Server applications running on Windows XP. The appearance of your applications may vary slightly depending on your OS.
Buttons	Buttons are indicated by brackets. For example, if you were to see "click **[Save]**" in the directions, you would want to click the Save button.
Pathnames	All of the sample pathnames shown in this guide are for a Windows OS. Use the path naming convention that is appropriate to the OS on which you are running this product. For example, if you are running a Unix OS, where this guide states "C:\Program Files\BUFFALO", you would instead use "/usr/local/BUFFALO".
Help Icon Symbols	This guide uses icon symbols to enable the reader to easily identify tips, special documentation convention information, cautionary statements, and advanced user information: = Tip = Cautionary statement = Advanced user information = Documentation convention information

Buffalo Surveillance Server Conventions

Convention	Contents
Pathname and Case Usage	Pathnames for hard disk media, log files, and miscellaneous directories are case sensitive on non-Windows computers.

Convention	Contents
	Unless noted otherwise, values you enter, such as when creating a Vault or searching for a file, are not case sensitive but are case preserving. This means that you can use case but case is ignored by the application. When entering pathnames or pathname searching patterns, only the forward slash (/) may be used as a pathname delimiter. If you use a backslash (\), as is customary on some platforms, you may get unexpected results.
Buffalo Surveillance Server Privileged Users	Buffalo Surveillance Server privileged users have the rights to override security in the application as it relates to Buffalo Surveillance Server resources (e.g., media, stored data, Vault operations). They cannot override local computer security. The following are Buffalo Surveillance Server privileged users: • Windows "Administrators" group • Windows "Backup Operators" group • Windows "Domain Administrator" user • Windows "Domain Admins" group • POSIX "root" user (UID:0) • POSIX "root" group (GID:0)
Opening a Buffalo Surveillance Server application in UNIX	When starting an application on Linux through a terminal shell using **cd /usr/local/BUFFALO/Bin/...**, if you click the **X** button on the terminal shell itself, the terminal shell and application closes. If you have not saved your policy, any new parameters are not saved. If you press **Ctrl-C**, an "Aborted" message appears and the application closes. If you have not saved your policy, any new parameters are not saved.

Convention	Contents
	To avoid closing an application by accident, start the application using the **nohup** command. Type **(nohup ./VaultAdmin >/dev/null 2>&1 < /dev/null &)** at the prompt. This completely isolates the command from the parent terminal shell.
Unsupported naming conventions in Windows	Some Windows applications create filenames with characters that are unreadable by Windows Explorer. These files are also unreadable by Buffalo Surveillance Server clients.

Questions?

For any questions that are not answered in this help resource, please contact us 11.

Getting Started

This section presents information to help you get started quickly and easily, and give you an overview of Buffalo Surveillance Server functionality.

- See Quick Start for IP Camera Users 16 to perform the basic steps required to implement the In using Buffalo Surveillance Server, set up an IP camera to record and store video, and search for captured video footage.

- See Quick Start for VMS System Users 27 to implement the Buffalo Surveillance Server, begin to record and store video from your VMS system, and search for captured video footage.

- See How To 34 for high-level, step-by-step directions covering several frequently needed tasks. For in-depth information on any given task, go to the respective section in this guide

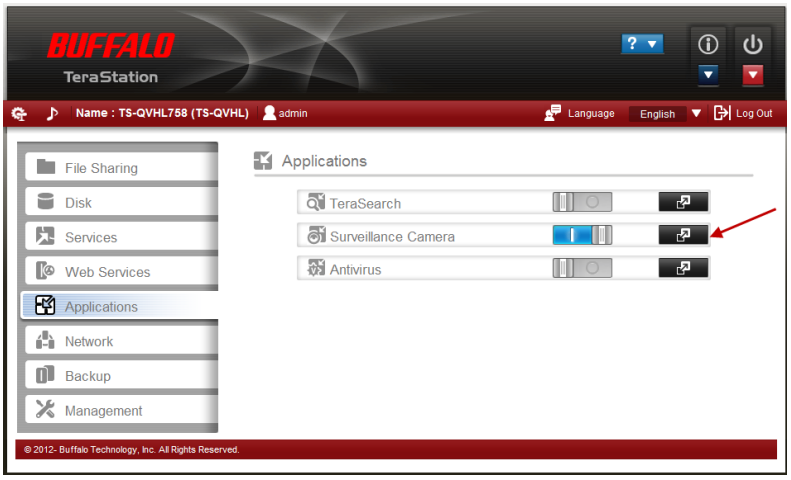
This software has a product license associated with it. For more information see Product Licensing 344.

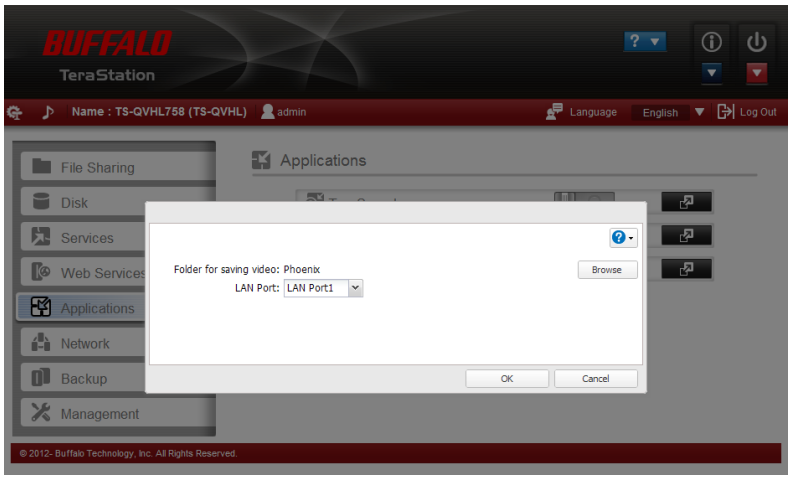
Quick Start for IP Camera Users

You can quickly and easily set up the Buffalo Surveillance Server and your RTSP enabled IP cameras to begin to record, store, and manage surveillance video.

The brief steps below show you how to get started. They explain how to set up a camera configuration and begin to record video, and then search for and view your video feeds.

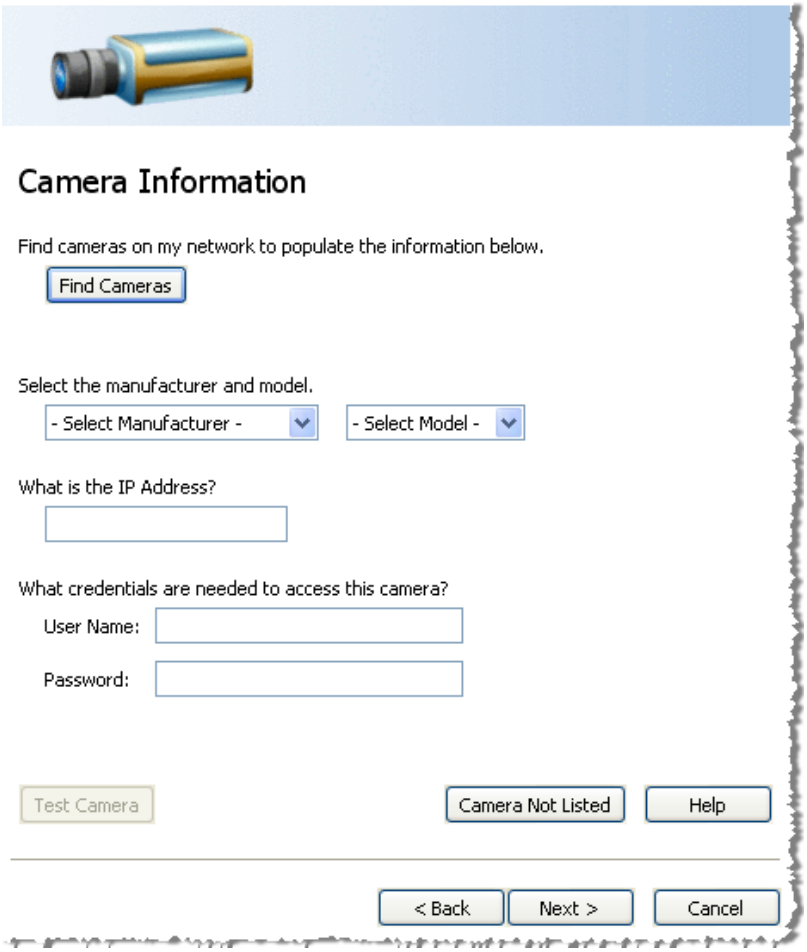
To learn more about using the options and powerful capabilities of the Buffalo Surveillance Server, see the **Getting Started** section and the remaining topics in this manual.

Step	When you want to:	Perform the following steps:
1	**Connect and set up the storage device.**	Follow the instructions from your Buffalo storage device to: ▸ Physically connect the device to your network, power it up, and initialize it. ▸ Ensure that your computer is properly configured and connected to a network. ▸ Open the web-based administration interface for the device.
2	**Enable Surveillance capabilities.**	▸ In the Web Admin Interface, click **Applications** and then **Surveillance Camera** to configure the surveillance camera.  **Folder for saving video -** Specifies where video will be stored; if you are not sure of a location then keep the default value. Use the Browse button to navigate to other folders. Select a **LAN Port**. If there are multiple network connections, then select the one that is connected to the desktop.

		 ▸ Click **OK**.
3	**Download and Install surveillance software for desktop client.**	▸ Visit the Buffalo Technology website to download a copy of the client software. ▸ Ensure that Buffalo Surveillance Server will not be blocked by your local firewall software. All devices running the Buffalo Surveillance Server must be **time synchronized**. If they are not, unexpected results may occur.
4	**Connect your IP camera and determine its IP address.**	▸ Refer to the camera's user manual to install, configure, and initially access the camera. ▸ Use the camera's discovery software or other mechanism to determine its IP address, and write it down. You need it for the next step.
5	**Add a camera configuration and schedule video recording.**	▸ From the suite of Buffalo Surveillance Server applications on your computer, open the Camera Policies application. ▸ Click the **Add Camera Wizard** button on the toolbar. The Welcome screen appears:

Welcome to the Add Camera Wizard
This wizard helps you add and schedule a new camera.
You may need to run this wizard with administrative rights.
To continue, click Next.
About
Help
< Back
Next >
Cancel

- Click **Next**. The Camera Information window appears.



- To add camera information either click the **Find Cameras** button to display all the cameras found on the network, or from the pull-down lists **select the manufacturer and model**.

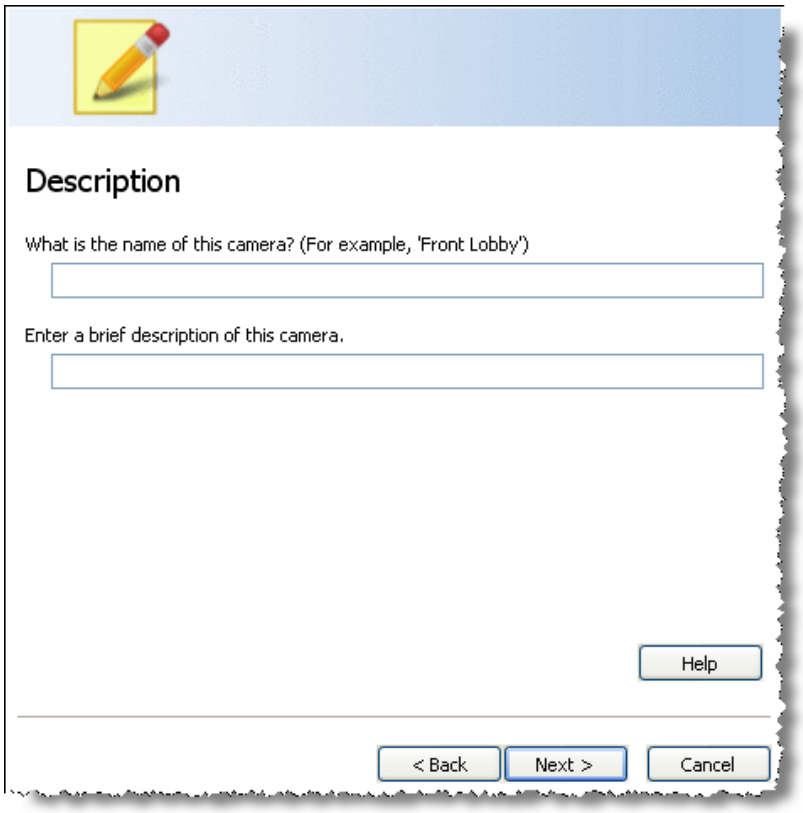
If your camera manufacturer or model is not listed, use the Camera Configuration window to add your camera, rather than this wizard. See Add an IP Camera - Standard Mode 63.

- In the **IP address** box, enter the host name or IP address in dot notation.
- Enter the **user name** and **password** for the camera if they are required to access it.
- Click the **Test Camera** button to start a viewer to test whether the supplied information is correct.

What if my camera is not listed in the Add Camera Wizard?

- If your camera is not listed, add your camera's information using the Camera Configurations window. See Add an IP Camera - Standard Mode 63 for this procedure.
- If your camera manufacturer and model are listed, Buffalo Surveillance Server automatically fills the required camera information.

▸ Click **Next**. The Description window appears.

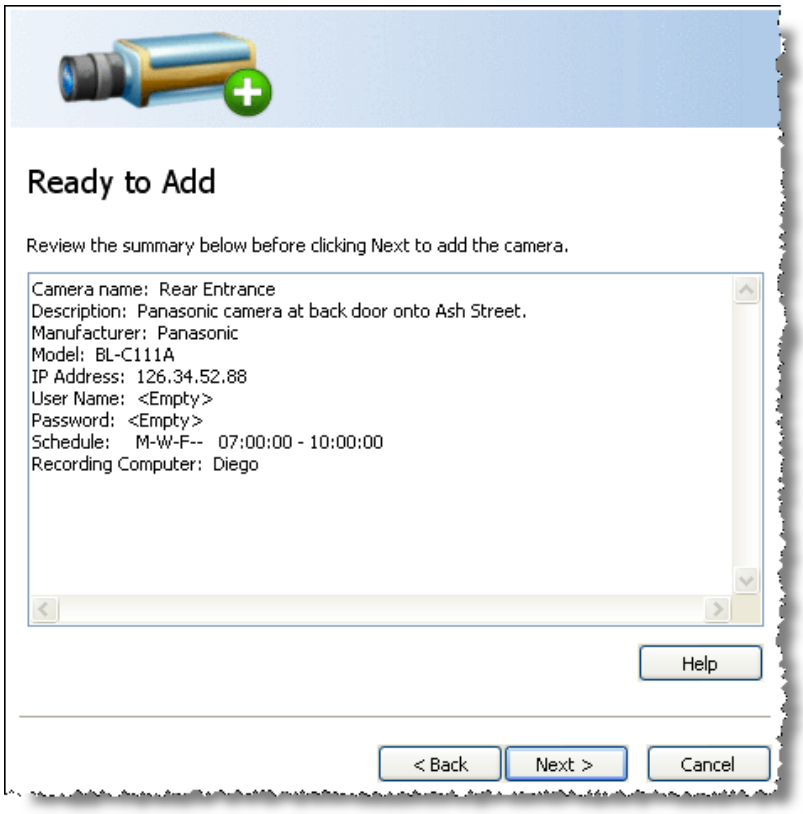

Description
What is the name of this camera? (For example, 'Front Lobby')
Enter a brief description of this camera.
Help
< Back
Next >
Cancel

▸ Enter a meaningful name to identify the camera, and a brief description.

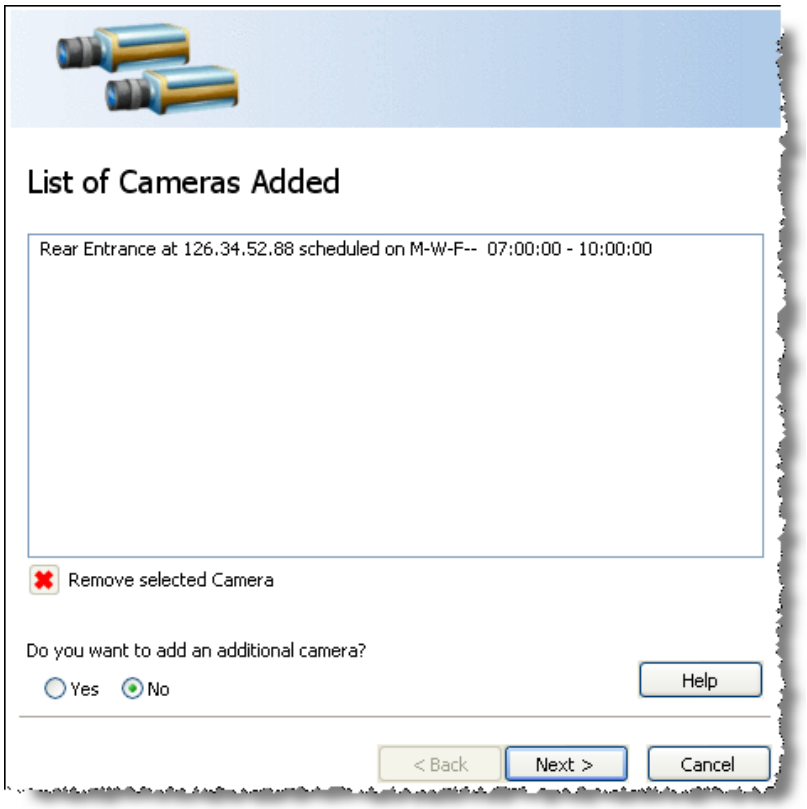
▸ Click **Next**. The Recording Schedule window appears.

- Select **Always** to record continuously. Video is captured into the Buffalo Surveillance Server Information Repository in 5-minute clips.
- Click **Next**. The Recording Computer screen appears.

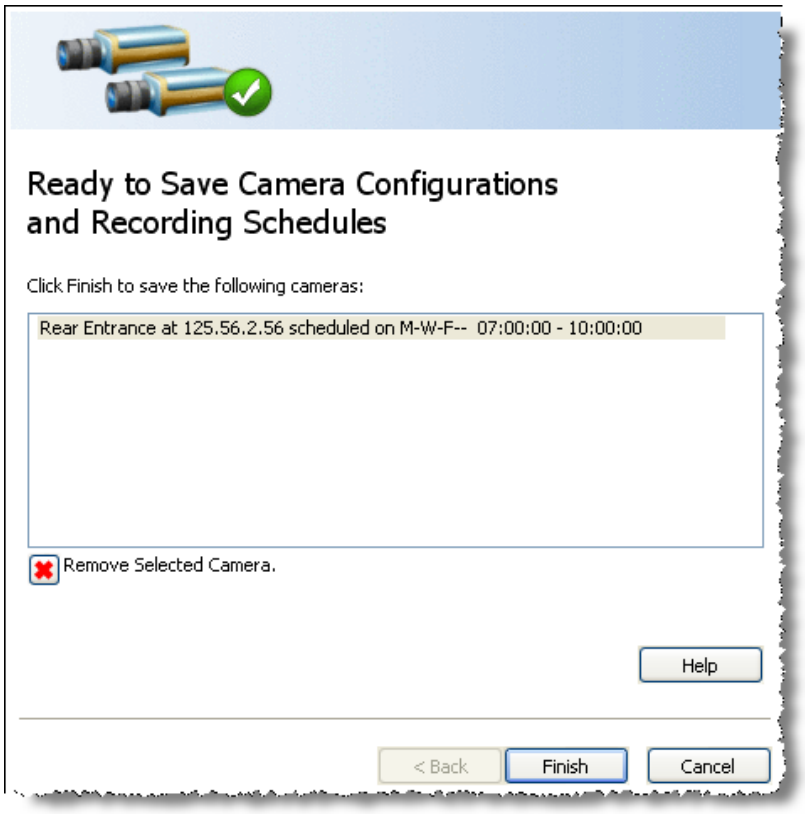
- Select the computer that should be used for recording video from the drop-down list.
- Click **Next**. The Ready to Add window appears.



- Review the information. To make changes, use the **Back** button to go to the appropriate wizard screen.
- Click **Next**. The List of Cameras Added window appears.



- The cameras added during the wizard session are listed. To remove any camera, select it and then click the **Remove Selected Camera** button.
- If you do not want to add another camera, select **No**. To add another camera, select **Yes** in order to cycle through the wizard again. Click **Next**.
- If you have no more cameras to add, the Ready to Save Camera Configurations and Recording Schedules window appears.

		 ▸ The list of cameras for save is displayed. To remove any camera, select it and then click the **Remove Selected Camera** button. ▸ Click **Finish**. The Add Camera Wizard closes, and the focus is in the main Camera Policies application window. By configuring a camera and setting a schedule for it to record, the new recording policy is listed on the left side of the main Camera Policies application.
6	**Wait for your video feed to be recorded and processed.**	After creating a recording policy, wait about 15 minutes to allow the system time to record a 5-minute clip, process and store it, and make it available for searching.
7	**Search for and review recorded video.**	▸ From the suite of Buffalo Surveillance Server applications on your computer, open **Surveillance Video Manager** . ▸ Click the **Search** button on the lower left. The search results pane in the middle of the screen displays the video clip that was just recorded. ▸ Also select the camera whose video you want to search.

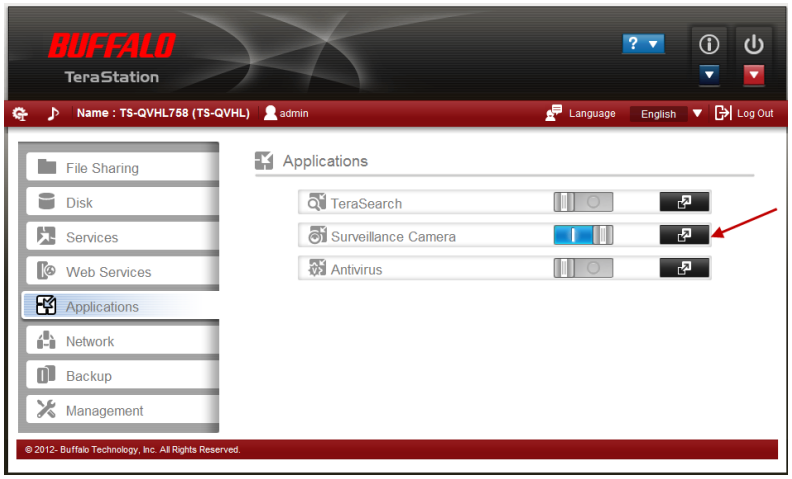
		▸ Click **More Search Options** to see more criteria to narrow search results. Refer to the section on Searching for, Reviewing, and Exporting Surveillance Video 273 for more information about how to export video out of the system.
8	**Install Buffalo Surveillance Server clients on other computers.**	To run Buffalo Surveillance Server policies from other computers on your network, repeat Step 3 to download and then run the client software on those computers.

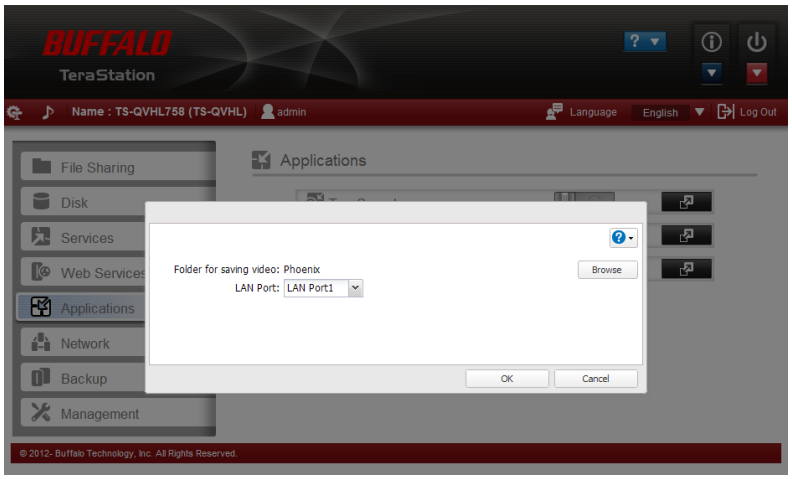
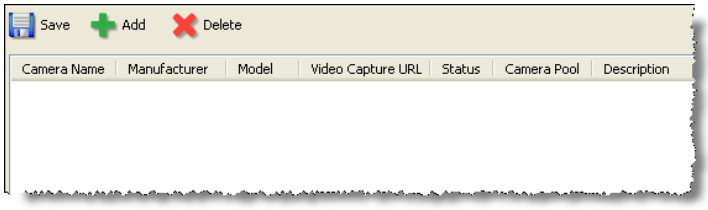
Quick Start for VMS System Users

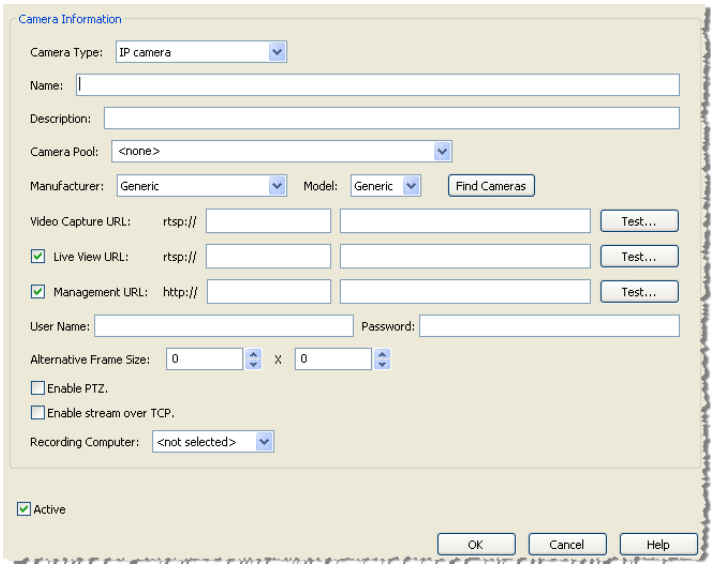
If your hardware configuration supports VMS systems, you can quickly and easily set up the Buffalo Surveillance Server to capture, store, and manage that video.

The brief steps below show you how to get started. They explain how to set up VMS-managed cameras and begin to record video into the Buffalo Surveillance Server Information Repository, and search for and view your video feeds.

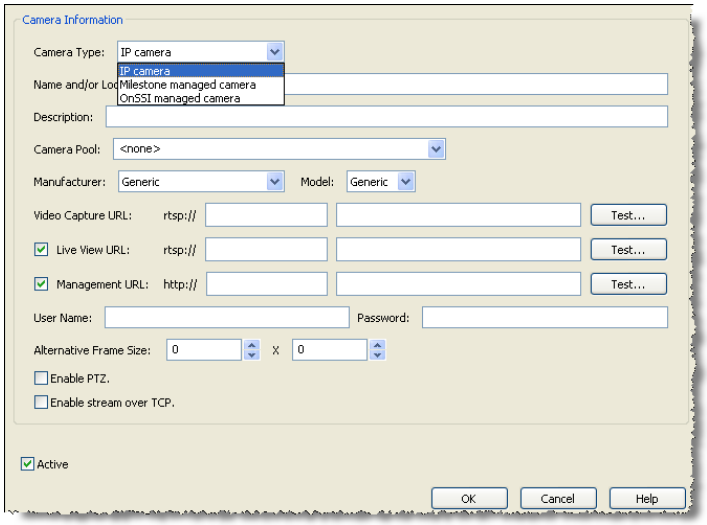
To learn more about using the options and powerful capabilities of the Buffalo Surveillance Server, see the **How To** section and the remaining topics in this manual.

Step	When you want to:	Perform the following steps:
1	**Connect and set up the storage device.**	Follow the instructions from your Buffalo storage device to: ▸ Physically connect the device to your network, power it up, and initialize it. ▸ Ensure that your computer is properly configured and connected to a network. ▸ Open the web-based administration interface for the device.
2	**Enable Surveillance capabilities.**	▸ Open the web-based administration interface (Web Admin) for your Buffalo NAS device. ▸ In the Web Admin Interface, click **Applications** and then **Surveillance Camera** to configure the surveillance camera.  **Folder for saving video -** Specifies where video will be stored; if you are not sure of a location then keep the default value. Use the Browse button to navigate to other folders. Select a **LAN Port**. If there are multiple network connections, then select the one that is connected to the desktop.

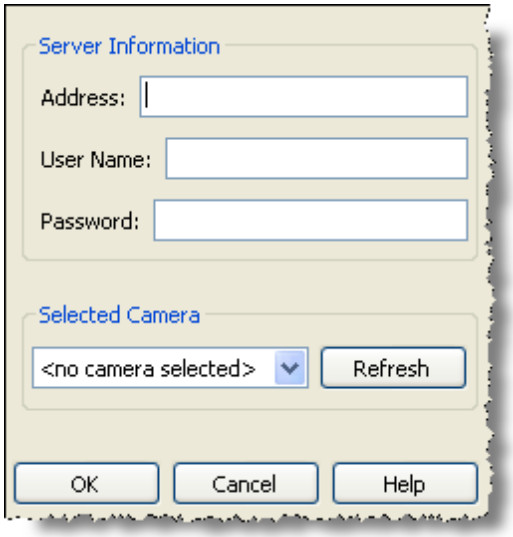
		 ▸ Click **OK**.
3	**Download and Install surveillance software for desktop client.**	▸ Visit the Buffalo Technology website to download a copy of the client software. ▸ Ensure that Buffalo Surveillance Server will not be blocked by your local firewall software. All devices running the Buffalo Surveillance Server must be **time synchronized**. If they are not, unexpected results may occur.
4	**Add camera configuration information.**	▸ From Camera Policies > **View** menu, select **Enable Advanced Mode**. ▸ In the toolbar, click to open the Camera Configurations window. The Camera Configurations window opens:  ▸ Click to add a new camera configuration. The Add New Camera window appears.



- Select the appropriate camera from the **Camera Type** drop-down list.



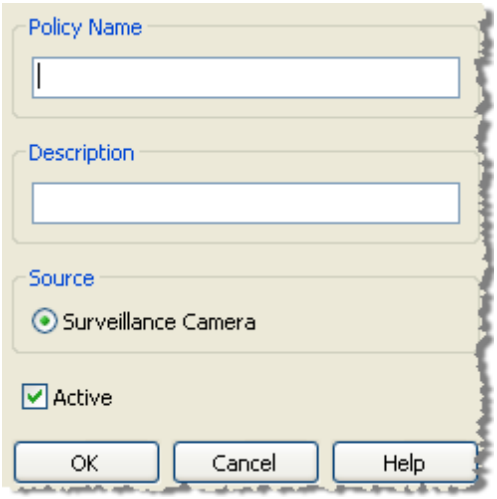
- Type the name and location of the camera, and a description.
- To associate the camera with a Camera Pool, select it from the drop-down list.
- In the Target Camera section, click **Change** to populate boxes. The Modify Target Camera dialog appears.

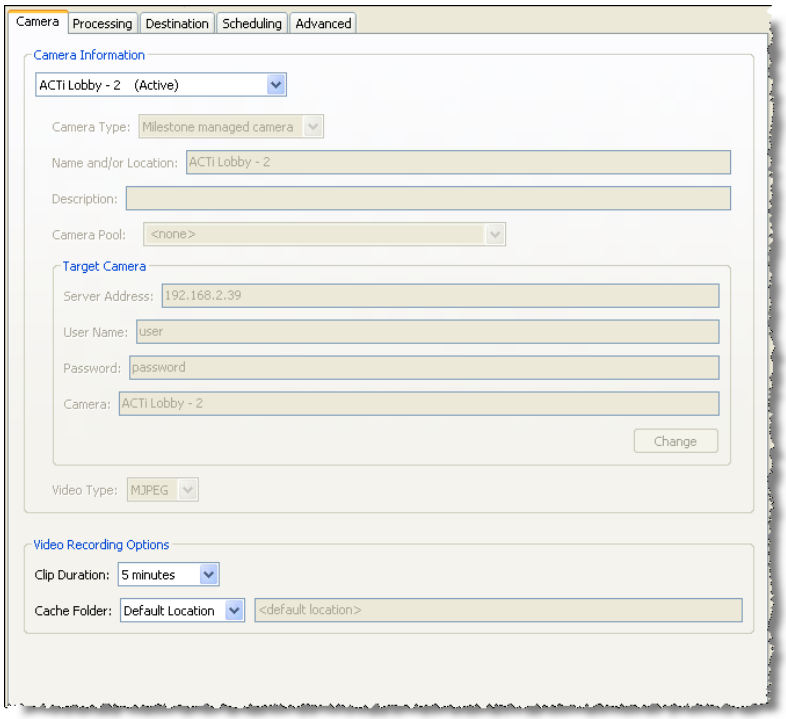


- Fill in the following text boxes:

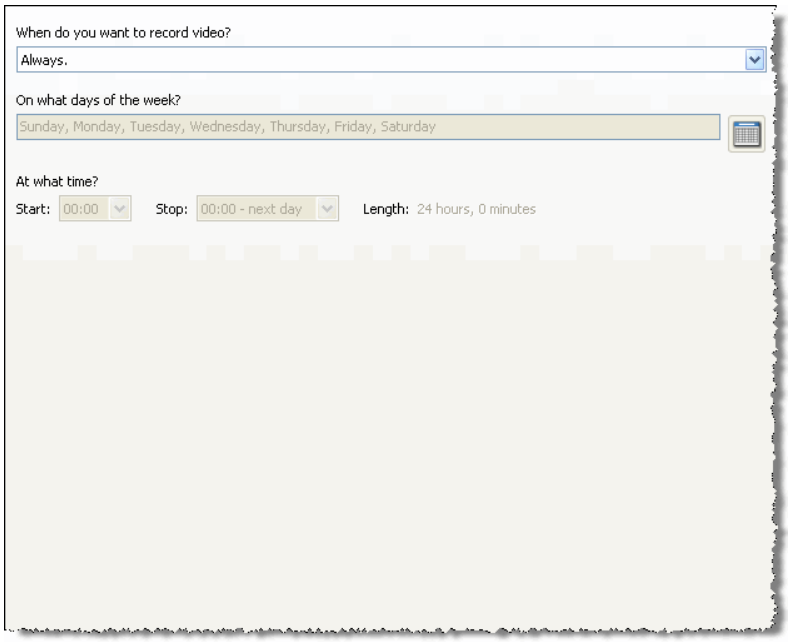
Address:	The host name or IP address of the image server to extract video from.
User Name:	User name for someone who has rights to access the camera with video to extract.
Password:	Basic user password for the VMS system database.

- Click **Refresh** to update the list of cameras associated with the server, and then select the camera with video to capture into the Buffalo Surveillance Server.
- Click **OK** to close the dialog box.
- In **Video Type**, select the format the extracted video should be stored.
  - MJPEG stores video in the same format it was stored in Milestone, and takes the same amount of space.
  - H.264 is a loss-less format that takes 30% to 70% less storage space.
- Leave the **Active** check box selected so the camera can be used in the policy to create in the next step.
- Click **OK** to close the Add New Camera dialog box.

		▸ Click to save the new camera configuration and add it to the Information Repository. ▸ Repeat the steps above to add the configurations for each camera with video to capture into the Buffalo Surveillance Server Information Repository.
5	**Create a recording policy to record and store video.**	▸ In the toolbar of the Camera Policies window, click **Add** . ▸ In the Create a Policy dialog box, enter a **Policy Name** and **Description**, select the host, select the **Active** check box, and click **OK**.  The policy is displayed in the left pane of the Camera Policies window. ▸ In the **Camera** tab of the Camera Policies window, select the camera added.



- In the **Scheduling** tab, leave the defaults so video feeds are recorded continuously.



- Click **Save** to save the policy.

6	**Wait for your video feed to be recorded and processed.**	After creating a recording policy, wait about 15 minutes to allow the system time to record a 5-minute clip, process and store it, and make it available for searching.
7	**Search for and review recorded video.**	▸ From the suite of Buffalo Surveillance Server applications on your computer, open **Surveillance Video Manager** . ▸ Click the **Search** button on the lower left. The search results pane in the middle of the screen displays the video clip that was just recorded. ▸ Also select the camera whose video you want to search. ▸ Click **More Search Options** to see more criteria to narrow search results. Refer to the section on Searching for, Reviewing, and Exporting Surveillance Video 273 for more information about how to export video out of the system.
8	**Install Buffalo Surveillance Server clients on other computers.**	To run Buffalo Surveillance Server policies from other computers on your network, repeat Step 3 to download and then run the client software on those computers.

How To

Each "How To" section provides high-level directions on how to quickly execute a task. For in-depth information on any given task, go to the respective section in this guide.

- Launch a Buffalo Surveillance Server application 34

Capture Video Feeds from RTSP Enabled IP Camera

- Add and Schedule an IP Camera 34
- Create a Recording Policy 44

Create Data Service Policies

- Create a Data Service Policy 45

Search for & Export Surveillance Video Files

- Search for & Export Surveillance Video Files 46

Launch an Application

To launch a Buffalo Surveillance Server application, see the instructions for the OS below.

Windows

- To launch a Buffalo Surveillance Server application from the Windows desktop, click **Start** > **All Programs** > **BUFFALO**, and then select the application to run.

Macintosh

- To launch a Buffalo Surveillance Server application on a Macintosh, browse to **Applications** > **BUFFALO** > **Bin**, and then select the application to run.

Add and Schedule an IP Camera

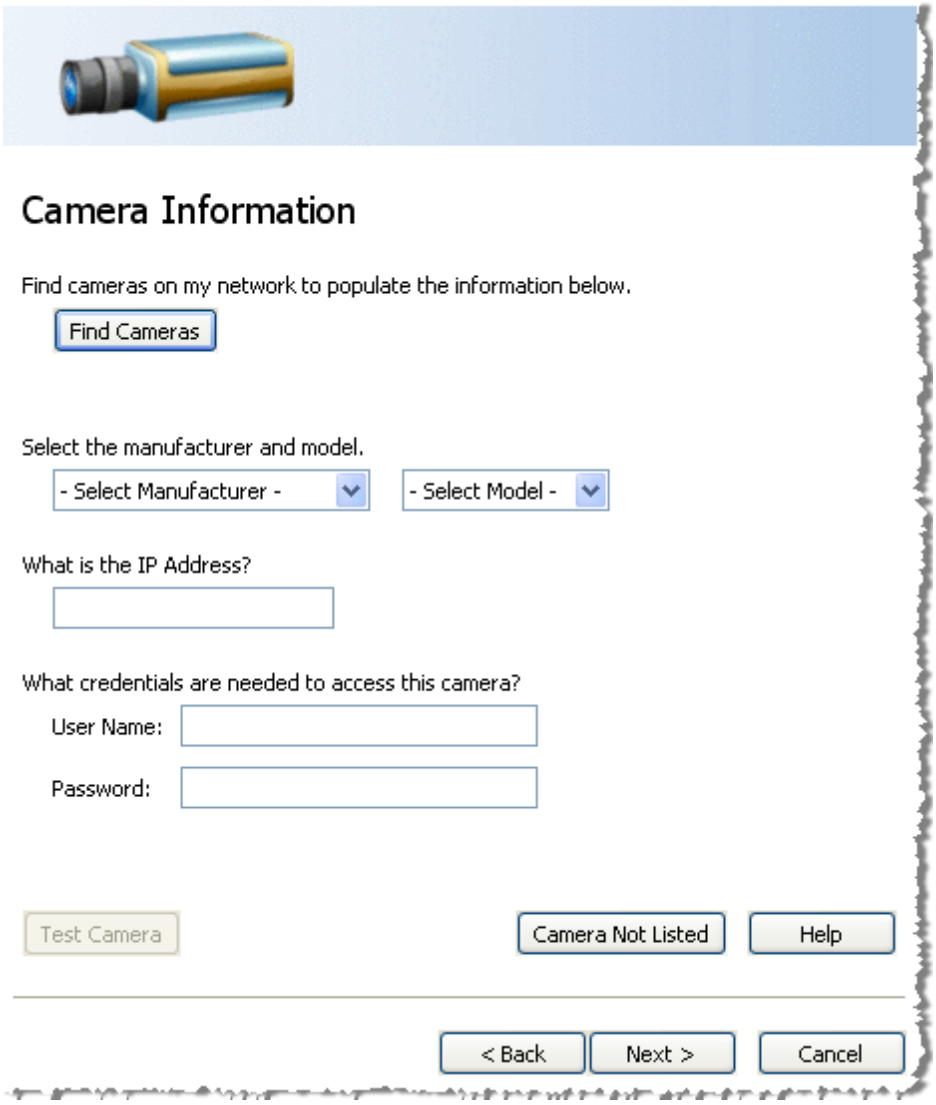
Follow the steps below to use the Camera Wizard to quickly and easily add a camera and start to record video.

- From the suite of Buffalo Surveillance Server applications on your computer, open the Camera Policies application.

- Click the **Add Camera Wizard** button on the toolbar. The Welcome screen appears:

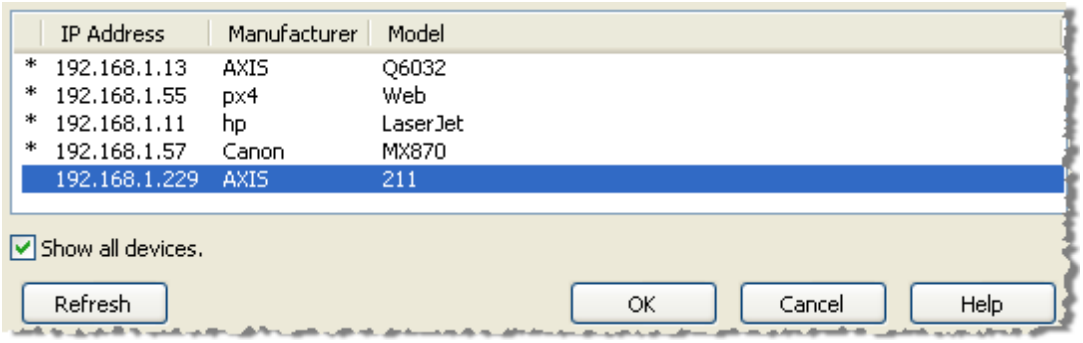
Welcome to the Add Camera Wizard
This wizard helps you add and schedule a new camera.
You may need to run this wizard with administrative rights.
To continue, click Next.
About
Help
< Back
Next >
Cancel

- Click **Next**. The Camera Information window appears.



- To add camera information either click the **Find Cameras** button or from the pull-down lists **Select the manufacturer and model**.

  If you click the **Find Cameras** button a Search Results window appears showing a list of cameras found on the network. If your camera is not on the list, select the **Show all devices** check box for any additional cameras on the network and other devices to display. If your camera still does not display, use the **Select the Manufacturer and model** pull-down list option and type the IP address, or you can add it manually in Camera Configurations. In the Search Results window, cameras in use appear grayed-out and available cameras for configuration have an asterisk (*) in the first column. Select a camera and click **OK**, or double-click the camera item for the camera information to configure.



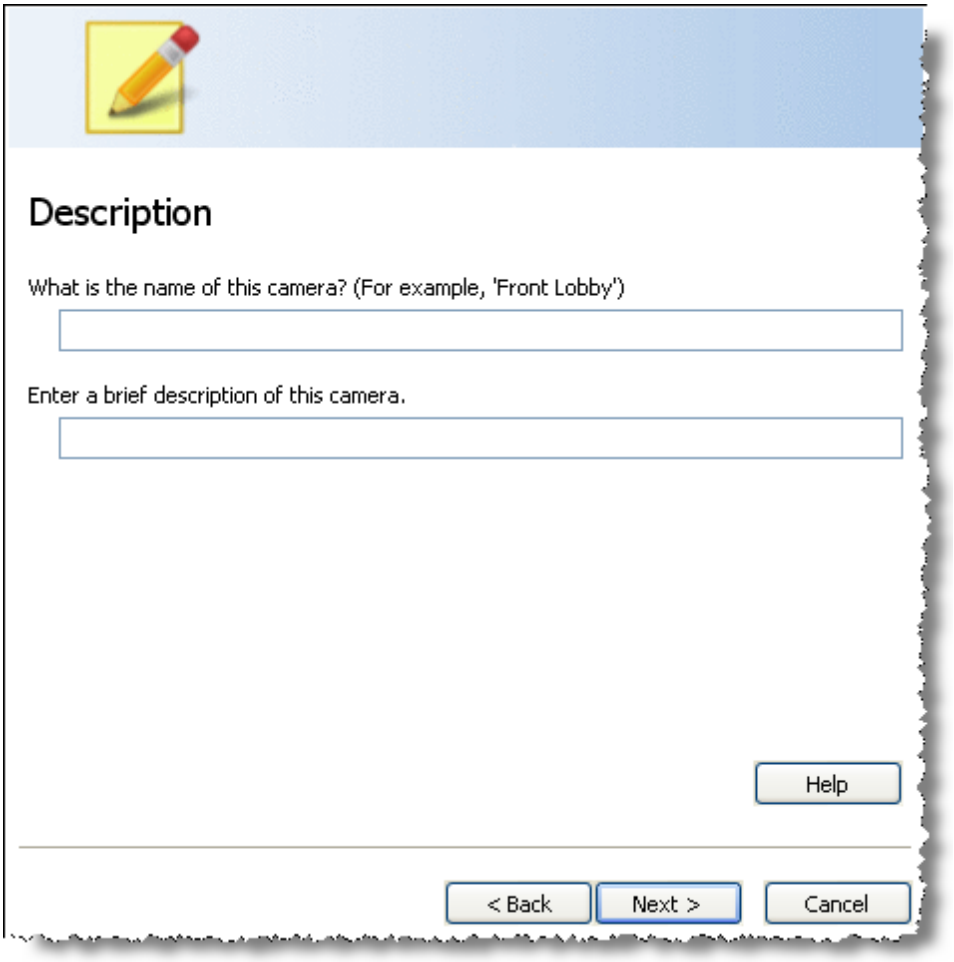
If the camera manufacturer or model is not listed, use the Camera Configuration window to add the camera, rather than this wizard. See Add an IP Camera - Standard Mode 63.

- In the **IP address** text box, type the host name or IP address in dot notation.
- Type the **user name** and **password** for the camera if they are required to access it.
- Click the **Test Camera** button to start a viewer to test whether the supplied information is correct.

What if my camera is not listed in the Add Camera Wizard?

If your camera is not listed in the Add Camera Wizard, you'll need to add the camera's information manually using the Camera Configurations window for IP cameras. See Add an IP Camera - Standard Mode 63 for this procedure.

- Click **Next**. The Description window appears.

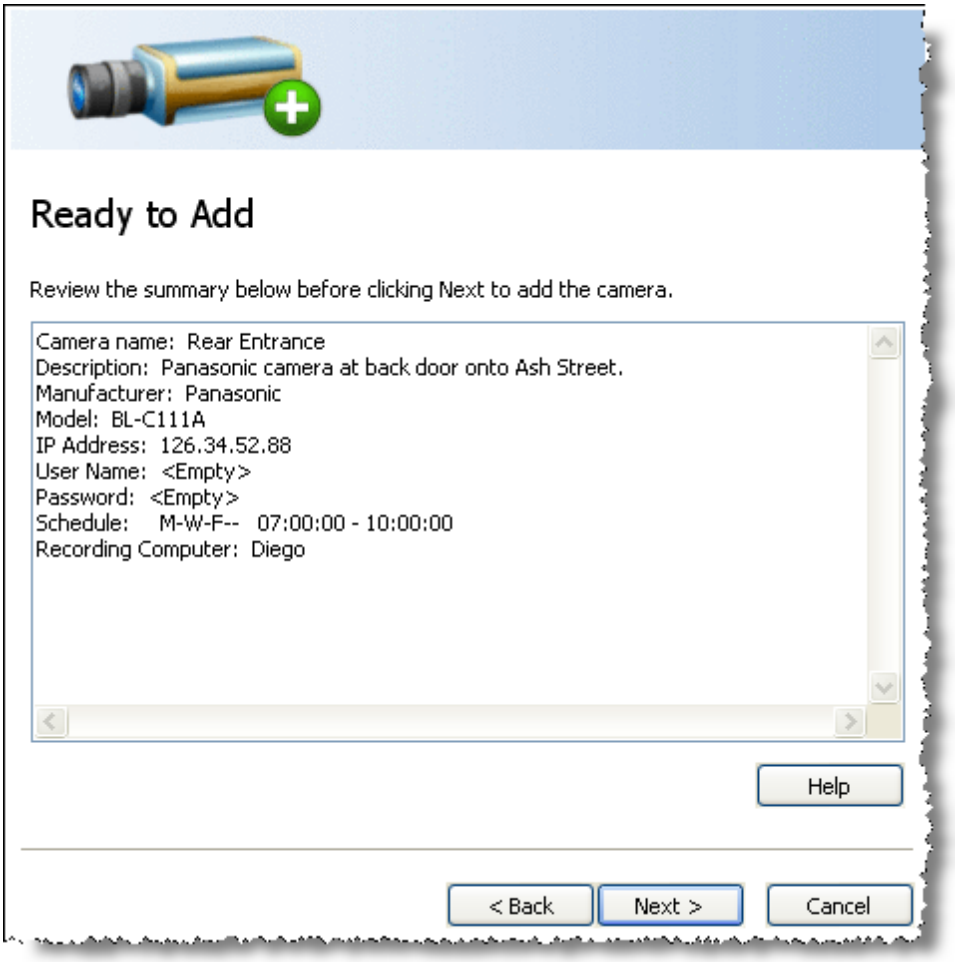

Description
What is the name of this camera? (For example, 'Front Lobby')
Enter a brief description of this camera.
Help
< Back
Next >
Cancel

- Enter a meaningful name that lets you identify the camera. You may also enter a brief description.
- Click **Next**. The Recording Schedule window appears.

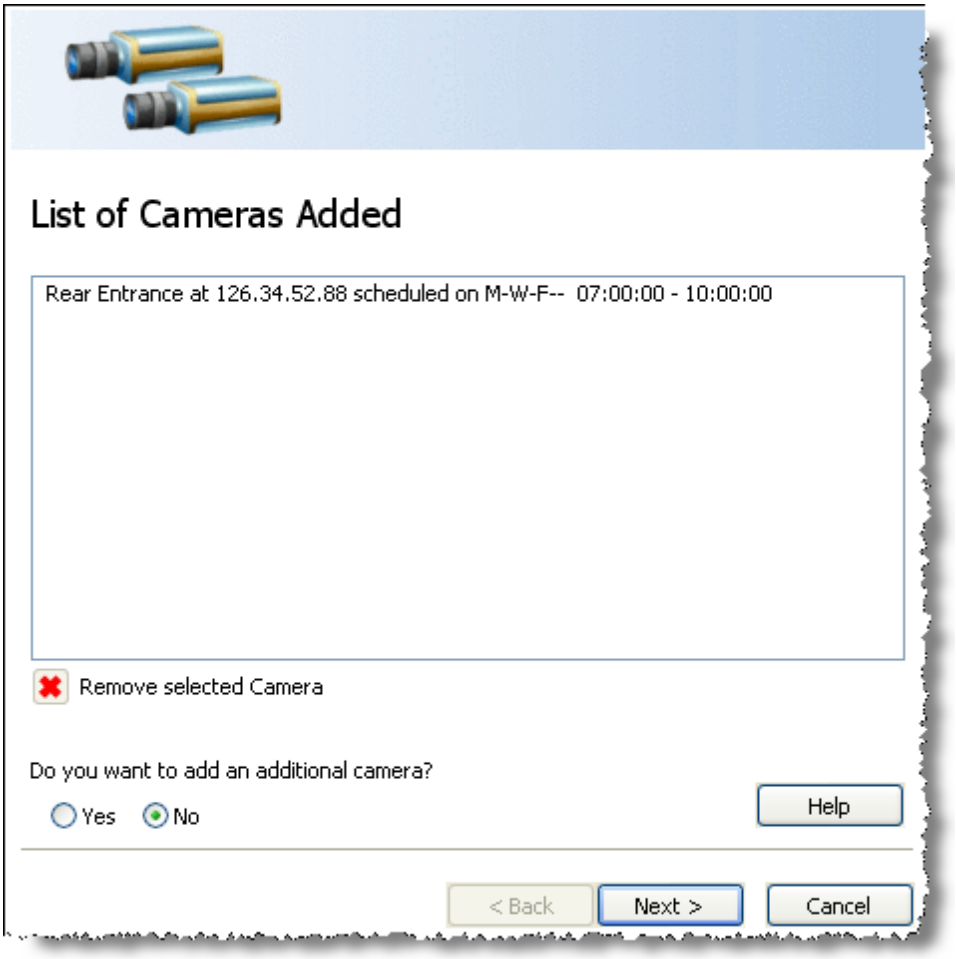
- Indicate when you want to record video:
  - Select **Always** record video continuously.
  - Select **At selected times** to record only on certain days or at certain times of the day.
- Click **Next**. If selecting to record video **at selected times**, an additional Recording Schedule window opens.

- Use the check boxes to select the **days** to record video.
- Use the **Start** and **Stop** drop down lists to set the beginning and ending times for the period to record. When you make your selections, the length of the time period is indicated.
- Click **Next**. After scheduling to record video, the Recording Computer screen appears.

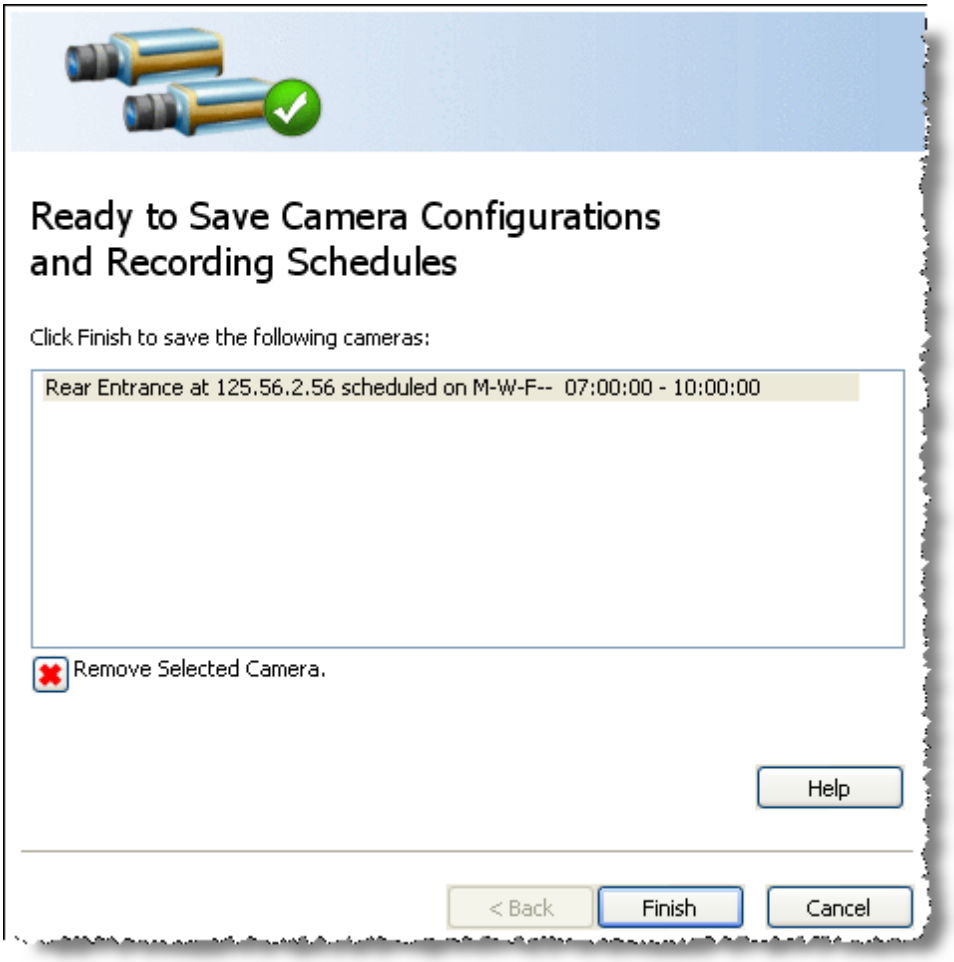
- Select the computer for recording video from the drop down list.
- Click **Next**. The Ready to Add window appears.



- Review the information. To change anything, use the **Back** button to go to the appropriate wizard screen.
- Click **Next**. The List of Cameras Added window appears.



- The cameras added during the wizard session are listed. To remove any camera, select it and then click the **Remove Selected Camera** button.
- If you do not want to add another camera, select **No**. To add another camera, select **Yes** in order to cycle through the wizard again. Click **Next**.
- If you have no more cameras to add, the Ready to Save Camera Configurations and Recording Schedules window appears.


Ready to Save Camera Configurations and Recording Schedules
Click Finish to save the following cameras:
Rear Entrance at 125.56.2.56 scheduled on M-W-F-- 07:00:00 - 10:00:00
Remove Selected Camera.
Help
< Back
Finish
Cancel

- The list of cameras ready for saving, is displayed. To remove any camera, select it and then click the **Remove Selected Camera** button.
- Click **Finish**. The Add Camera Wizard closes, and the focus is in the main Camera Policies application window.

Through configuring a camera and setting a schedule for it to record, you created a new recording policy that is listed on the left side of the main Camera Policies application.

Create a Recording Policy

For most users, the quickest and easiest way to set up a camera and schedule and record video is to use the Add Camera Wizard 53.

If you cannot use the Add Camera Wizard (for example, if your camera information is not included in the manufacturer or model list) you can create a recording policy in Basic Mode manually as explained below.

Also, if you want to set up and define additional recording configuration options, you can use the Advanced Mode 51 of the Camera Policies application.

To create a recording policy (Standard Mode):

1. Launch the Camera Policies 49 application.
2. The Camera tab 104 should already have focus. Select the video recording or capturing options you desire.
3. Select the Scheduling tab 129 to choose whether to schedule recurring jobs or individual jobs.
4. Click to save all policy settings and implement the recording policy.

To create a recording policy (Advanced Mode):

1. Launch the Camera Policies 49 application.
2. The Camera tab 104 should already have focus. Select the video recording or capturing options you desire.
3. Select the Processing tab 121 to define video and file processing options.
4. Select the Destination tab 123 to define the Vault, media, and/or storage pool to which video will be recorded or captured.
5. Select the Scheduling tab 129 to choose whether to schedule recurring jobs or individual jobs.
6. Select the Advanced tab 131 to set options such as Pre-Process Commands, Log Files Location, etc.
7. Click to save all policy settings and implement the recording policy.

For details, see Camera Policies: Create Policies to Automatically Capture Videos 49.

Create a Data Service Policy

Follow the steps below to create a Data Service policy:

1. Launch Data Service Policies 157.
2. If a policy is not already open by default, create a policy 160. Before you can set parameters and initialize the process, a policy must be open.
3. Select the Source tab 175 to identify a Vault, media, or storage pool from which you want to migrate, replicate, or purge files.
4. Select the Criteria tab 179 to denote which files to migrate, duplicate, or purge. You can also add file and directory filters 183.

5. Select the Destination tab[188] to specify where you want the files migrated or replicated to.
6. Select the Scheduling tab[193] to define when you want jobs to occur. By default, Data Service policies are not scheduled run.
7. Select the Advanced tab[196] to set options such as pre- and post-processing commands, log output location, connection sharing, and throttling.
8. Click to initiate the policy.

For details, see Data Service Policies: Create Policies to Manage Data in the Information Repository[157].

Search For and Export Surveillance Videos

Follow the steps below to search for and retrieve videos:

1. Launch the Surveillance Video Manager[273].
2. Search for and Select Videos & Clips for Export[286].

It is best to avoid using characters that the Buffalo Surveillance Server interprets as wildcards or as otherwise special. If you need to use a character literally that the Buffalo Surveillance Server uses as a wildcard, the character must be preceded by an escape character (\ ).

For example, *This is an example using escape characters in a statement with a wildcard*.

The following are Buffalo Surveillance Server wildcards and special characters: **?**, *****, #, **!**, **~**, **^**, **&**, **[ ]**, **{ }**, ****, **"**.

See the Advanced Wildcard Functionality section for details about wildcards.

3. Set Export Options & Export Videos and Clips[319].

Record and Capture Video Feeds

The Buffalo Surveillance Server allows for:

- Recording live video feeds from an RTSP enabled IP camera directly into the Buffalo Surveillance Server Information Repository.
- Capturing video from cameras controlled by a VMS system such as Milestone or OnSSI into the Buffalo Surveillance Server Information Repository.

Use the Buffalo Surveillance Server Camera Policies 49 application to configure RTSP IP enabled or VMS-managed cameras and create recording policies to capture video into the Buffalo Surveillance Server. Once inside the Buffalo Surveillance Server Information Repository, take advantage of management, migration, replication, search, and archiving capabilities.

Video capture from VMS systems may not be available, depending on your hardware device and depending on your product license.

The Camera Policies application controls all reporting, scheduling, and network bandwidth utilization. Each Camera Policies client that is implemented runs independently and manages all error logging, job operation completion times, and other information for its own computer platform and file systems. Any Camera Policies client can see and capture video data from any configured RTSP enabled IP or VMS-managed camera.

Load Balancing

You can denote a specific storage pool as part of the destination criteria for jobs. The Buffalo Surveillance Server's clients locate the Vault (or Vaults) that contains the denoted storage pool and stores the defined files to it. If there are multiple Vaults with media belonging to the storage pool defined for the initial job, clients pick the one with the most available free space on it. This keeps the entire Information Repository load balanced.

The Completeness and Accuracy of Stored Files

As a job is running, the Buffalo Surveillance Server continually verifies the completeness and accuracy of the stored files.

Most products with data verification features require the data to be read from the media that it is stored upon and compared to the original data on the client computer. While data verification is imperative, this method is very resource intensive and time consuming. In contrast, the Buffalo Surveillance Server uses a cyclic redundancy check (CRC) as the files are written to storage media.

If you are using policies to run jobs and an error or abnormal event occurs that prevents targeted files from being processed, clients add the filename to an internal retry list. At the end of the normal job and after the user-defined delay time, the client again attempts to process the files that could not be processed on the first pass. If a file cannot be processed during the retry session, the failure will be logged to a retry file and report. Any instance of videos that are not processed is included in the Information Repository's error logs. When a subsequent job starts, the Buffalo Surveillance Server looks for the retry file, and the videos slated for retry are added, with first priority, to the list of videos to be captured.

Data Migration and Replication

Once videos have been captured into the Information Repository, Data Service policies[159] can migrate and replicate data to and purge data from any Vault in the Information Repository. This allows for creating an efficient and powerful multi-tiered Information Repository. See the Data Service Policies[157] section for details.

Offline Media

When videos are being captured, offline media are never be used as a destination, even if offline media is selected, it is not used. Attempting to use media that is offline may result in a “No resources available” error if suitable media cannot be found.

Using Camera Policies to Record and Capture Video

The Camera Policies application enables you to set up RTSP and VMS-managed camera targets and then create policies that run unattended, on a scheduled basis. You can:

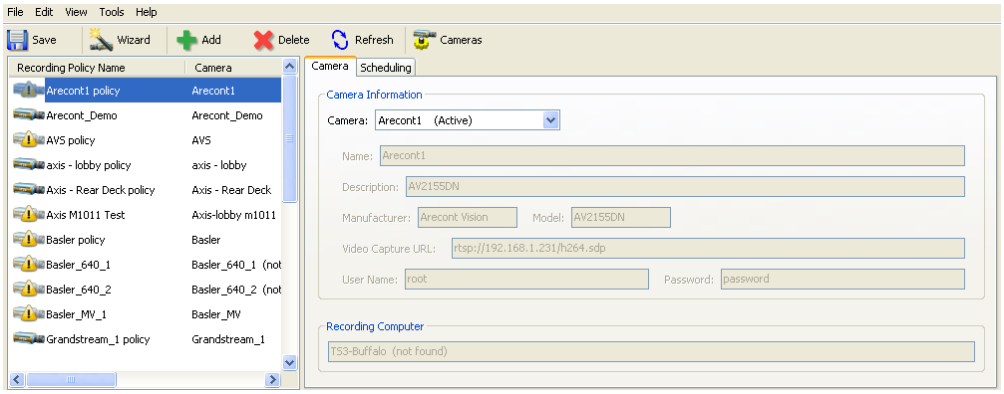
- Configure RTSP enabled IP cameras 63 to create policies 84 that automatically record video directly into the Buffalo Surveillance Server Information Repository.
- Configure VMS-managed cameras 71 to create policies 84 to capture video into the Buffalo Surveillance Server Information Repository.

Video capture from VMS systems may not be available, depending on your hardware device and depending on your product license.

Automated scheduled recording jobs are controlled by policies that are defined by parameters you set using the Camera Policies application. These policies control which video feeds are captured, when jobs start, in which Vaults videos are stored, how often jobs run, when jobs stop, and many other aspects of jobs.

The main Camera Policies window is divided into two main panes: the right pane contains the tabs you will need to populate to create a policy, and the left pane provides an overview of all of the recording policies in the Information Repository. Overview information includes the Policy Name, Camera, Recording Computer, and a policy Description. When you move your mouse over a policy listed in the left pane, a small popup displays summary information about the policy.

The Camera Policies window as it appears in standard mode is shown below. You may also choose to use Advanced Mode 51, which makes additional tabs and fields available.



The Camera Policies menu bar includes the following:

- **File**: Includes commands for importing and exporting recording policy configuration (.cfg) files as well as saving policies you have created or modified.
- **Edit**: Includes commands for adding, modifying, and deleting policies.

- **View**: Includes commands for refreshing the policies with the latest versions, and turning on and off popup tips which you can hover over for more information about the fields in the tabs in the right pane and the policies in the left pane, and enabling Advanced Mode, which lets you configure additional, advanced recording policy options.
- **Tools**: Provides access to Camera Configurations. If you are using the Camera Policies in Advanced Mode, this menu also lets you access the User Preferences 123 dialog.

The Camera Policies toolbar includes the following buttons:

Saves all policy settings.

Opens the Add Camera Wizard so that you can easily configure a camera and schedule it to record video.

Adds a new policy.

Deletes the selected policy.

Refreshes the view so that the latest version of each policy is displayed.

Provides access to Camera Configurations.

Important Tips:

- The first time you launch Camera policies, before you have created any policies, the Policy Name pane is empty. Before accessing any of the tabs, create a policy 85.
- When working with camera policies, there can be multiple recording policies per camera, but it is not recommended to have multiple policies active and running at the same time for a single camera.
- A triangular caution symbol ⚠ superimposed on a policy icon in the left pane indicates that the policy is not running. A policy does not run if its Active checkbox is de-selected, if the camera associated with it is not marked as active, or if there is no recording computer selected to run the policy.
- Camera Polices are visible to all computers in the Information Repository that are running Camera Polices and have appropriate permissions.
- Because recording policies are implemented across the entire Information Repository, another user can change policies while you are working in Camera Policies. To ensure that you are viewing the most current list of policies, use .

If multiple people in your organization create or modify camera configurations or recording policies, it is recommended that they **not** attempt to make their changes at the **same time**. Doing so may cause someone's work to be unintentionally overwritten.

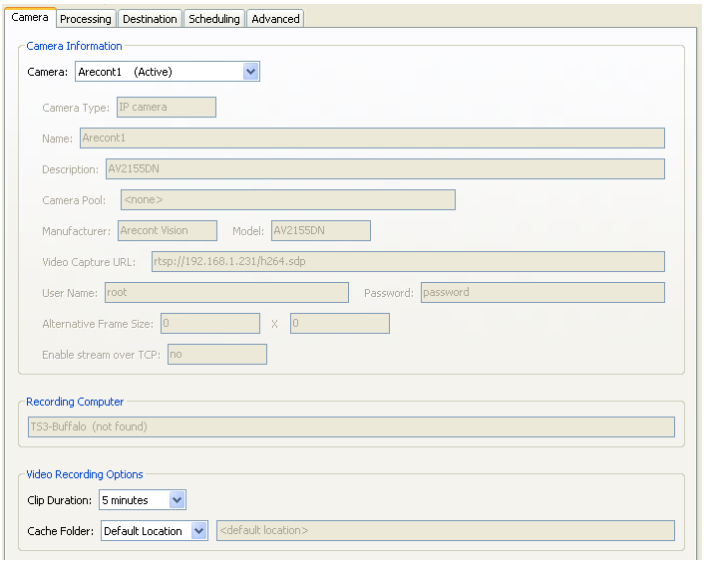
Camera Policies Advanced Mode

When you initially install the Camera Policies application, it is set in Standard Mode. This lets you set up and connect RTSP enabled IP cameras and schedule jobs quickly and easily. You can quickly create a recording policy by configuring IP cameras and setting the options in the Camera and Scheduling tabs of the Camera Policies application.

To capture video from VMS systems such as Milestone or OnSSI, you must use the Advanced Mode of Camera Policies. You may also want to use Advanced Mode to access additional, more advanced options for direct-connect IP cameras.

Video capture from VMS systems may not be available, depending on your hardware device and depending on your product license.

Compared to Standard Mode, Advanced Mode displays several additional fields on the Camera tab and Camera Configuration window, as well as additional tabs for setting Processing, Destination, and other Advanced options. See image below:



To enable Advanced Mode, select **Enable Advanced Mode** from the **View** menu on the main Camera Policies window.

If you turn Advanced Mode on, it remains that way until you disable it.

If you set an advanced option and later want to change it, you must be in Advanced Mode in order to access the option. Keep in mind that some Buffalo Surveillance Server users in your network may be using Standard Mode and thus might not be easily able to see that you have made a change in an advanced setting.

In the following sections it is assumed that you are using Camera Policies in basic mode. Additional options available only in Advanced Mode are noted as such.

Add, Modify, or Delete Camera Configurations

The Buffalo Surveillance Server enables you to view live feeds from RTSP enabled IP cameras and record video directly from RTSP enabled IP cameras. Before you can do this, you will need to add cameras to your Information Repository and configure them. When you add cameras, the Buffalo Surveillance Server tracks them and they are listed on the Camera tab of every Camera Policies application on any networked computer comprised by the Information Repository.

To learn how to view live feeds, see the section titled, Search for & Export Surveillance Video Files > View Live Camera Feeds 284.

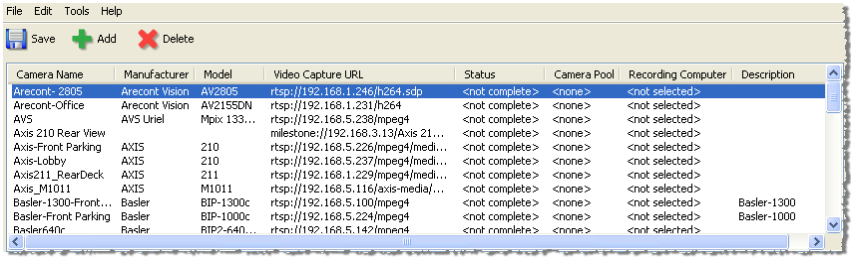
The **Camera Configuration window** displays a list of the camera configurations that have been created and are available for use by recording policies. It displays the camera name, manufacturer and model, capture URL, status, camera pool, recording computer, and a description.

The toolbar at the top has buttons for saving, adding, and deleting configurations. In addition, you can edit an existing configuration by selecting it, right-clicking, and selecting Edit.

Adding a camera configuration is the first step in using the Camera Policies application to directly record video (if you have RTSP IP enabled cameras) or capture video from a VMS system.

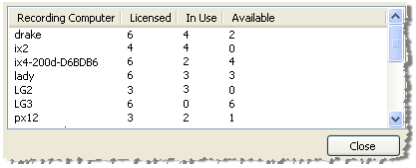
Video capture from VMS systems may not be available, depending on your hardware device and depending on your product license.

If you want to record video from an IP camera, the quickest and easiest way to do it is to use the Add Camera Wizard 53. If you are a more advanced user you need to configure a VMS-managed camera, you will do it by using the **Add** button in the Camera Configurations window, shown below.



Camera Allocation

In Camera Configurations window, from the **Tools** menu, select **Camera Allocation**. This is an informational window to show how many cameras are licensed, how many cameras are being used, and how many cameras are available for each recording computer. Use this information to manage and change where cameras are allocated using functions in the Camera Configurations window.



- Add Camera Wizard 53
- Add an IP Camera - Standard Mode 63
- Add an IP Camera - Advanced Mode 66
- Add a VMS-managed Camera Configuration 71
- Modify a Camera Configuration 77
- Delete a Camera 77
- Licensing 344

Add Camera Wizard

The Add New Camera Wizard is generally the quickest and easiest way to set up a camera and start to record video into the Buffalo Surveillance Server Information Repository.

The Add New Camera Wizard cannot be used if extended metadata 295 (the MetadataExtensions.cfg file) is in use. Add cameras manually using Camera Configuration when using extended metadata.

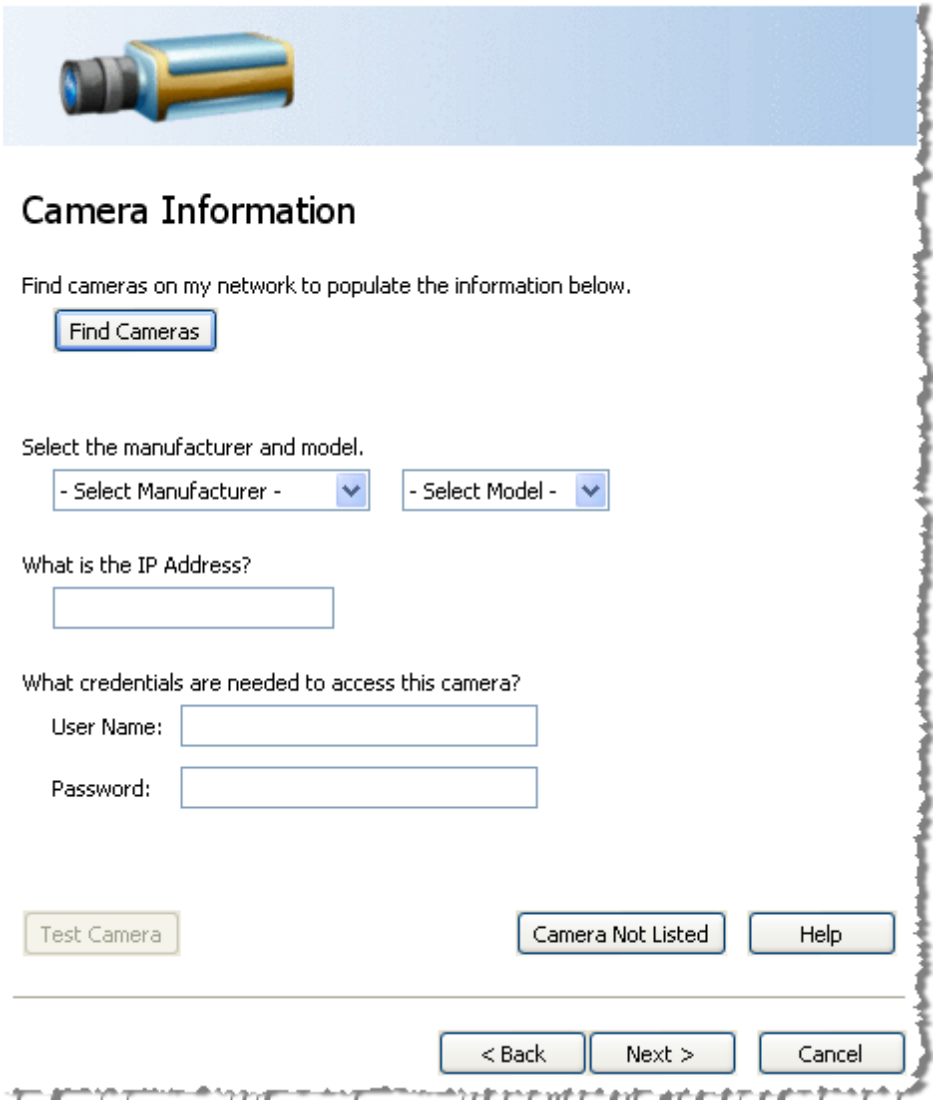
To add a camera and start to record video:

- From the suite of Buffalo Surveillance Server applications on your computer, open the Camera Policies application.

- Click the **Add Camera Wizard** button on the toolbar. The Welcome screen appears:

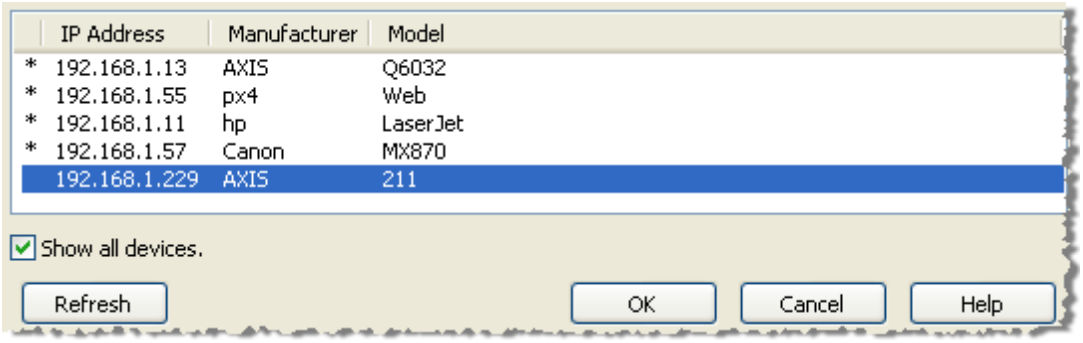
Welcome to the Add Camera Wizard
This wizard helps you add and schedule a new camera.
You may need to run this wizard with administrative rights.
To continue, click Next.
About
Help
< Back
Next >
Cancel

- Click **Next**. The Camera Information window appears.



- To add camera information either click the **Find Cameras** button or from the pull-down lists **Select the manufacturer and model**.

  If you click the **Find Cameras** button a Search Results window appears showing a list of cameras found on the network. If your camera is not on the list, select the **Show all devices** check box for any additional cameras on the network and other devices to display. If your camera still does not display, use the **Select the Manufacturer and model** pull-down list option and type the IP address, or you can add it manually in Camera Configurations. In the Search Results window, cameras in use appear grayed-out and available cameras for configuration have an asterisk (*) in the first column. Select a camera and click **OK**, or double-click the camera item for the camera information to configure.



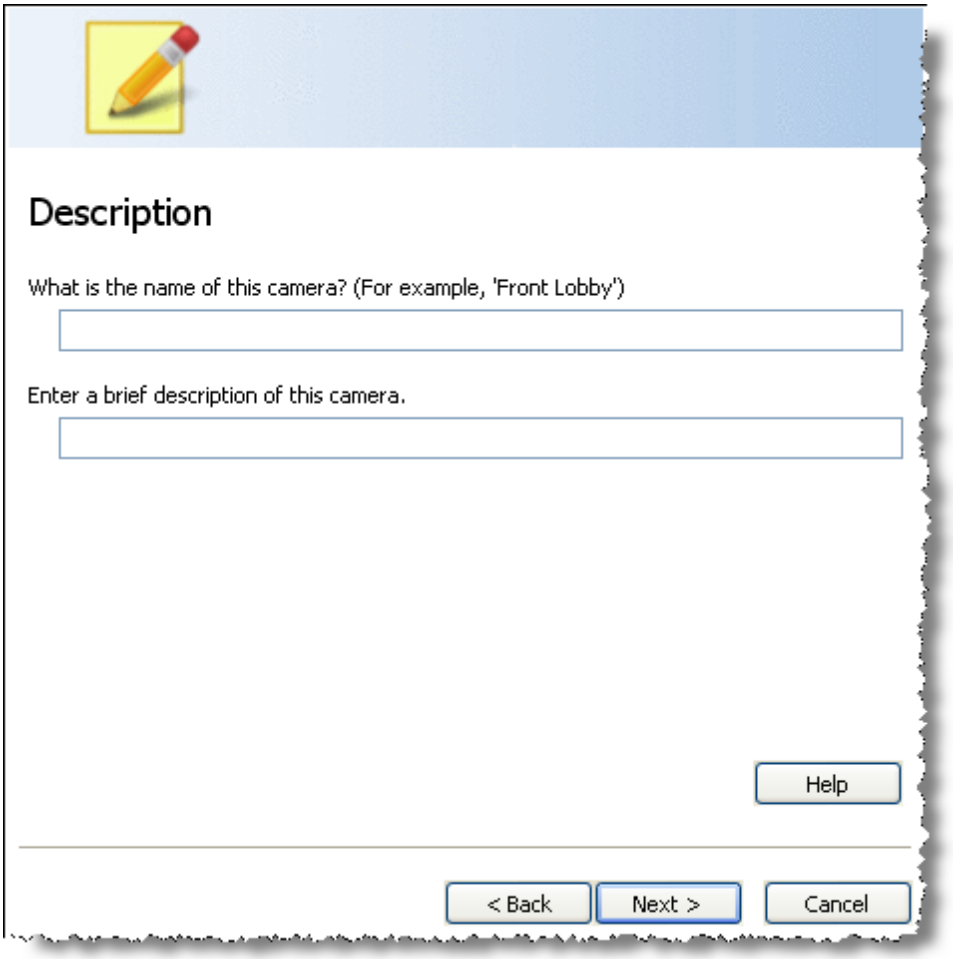
If the camera manufacturer or model is not listed, use the Camera Configuration window to add the camera, rather than this wizard. See Add an IP Camera - Standard Mode 63.

- In the **IP address** text box, type the host name or IP address in dot notation.
- Type the **user name** and **password** for the camera if they are required to access it.
- Click the **Test Camera** button to start a viewer to test whether the supplied information is correct.

What if my camera is not listed in the Add Camera Wizard?

If your camera is not listed in the Add Camera Wizard, you'll need to add the camera's information manually using the Camera Configurations window for IP cameras. See Add an IP Camera - Standard Mode 63 for this procedure.

- Click **Next**. The Description window appears.

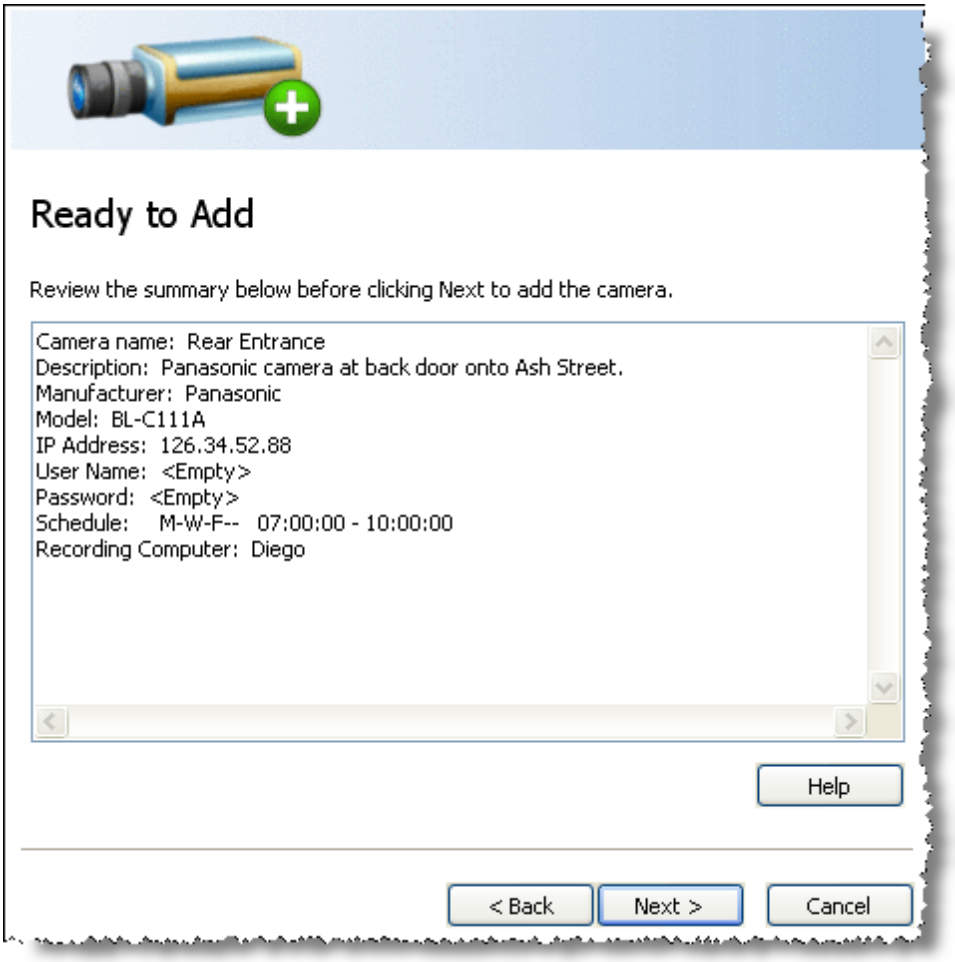

Description
What is the name of this camera? (For example, 'Front Lobby')
Enter a brief description of this camera.
Help
< Back
Next >
Cancel

- Enter a meaningful name that lets you identify the camera. You may also enter a brief description.
- Click **Next**. The Recording Schedule window appears.

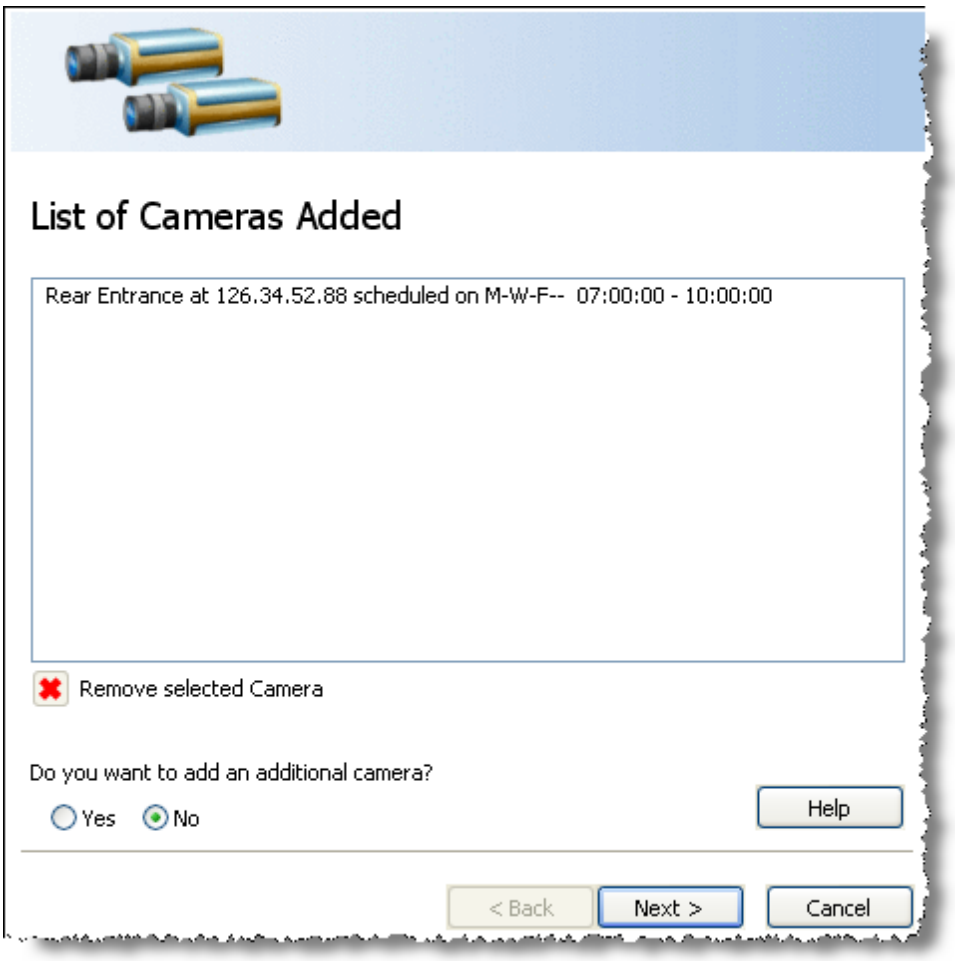
- Indicate when you want to record video:
  - Select **Always** record video continuously.
  - Select **At selected times** to record only on certain days or at certain times of the day.
- Click **Next**. If selecting to record video **at selected times**, an additional Recording Schedule window opens.

- Use the check boxes to select the **days** to record video.
- Use the **Start** and **Stop** drop down lists to set the beginning and ending times for the period to record. When you make your selections, the length of the time period is indicated.
- Click **Next**. After scheduling to record video, the Recording Computer screen appears.

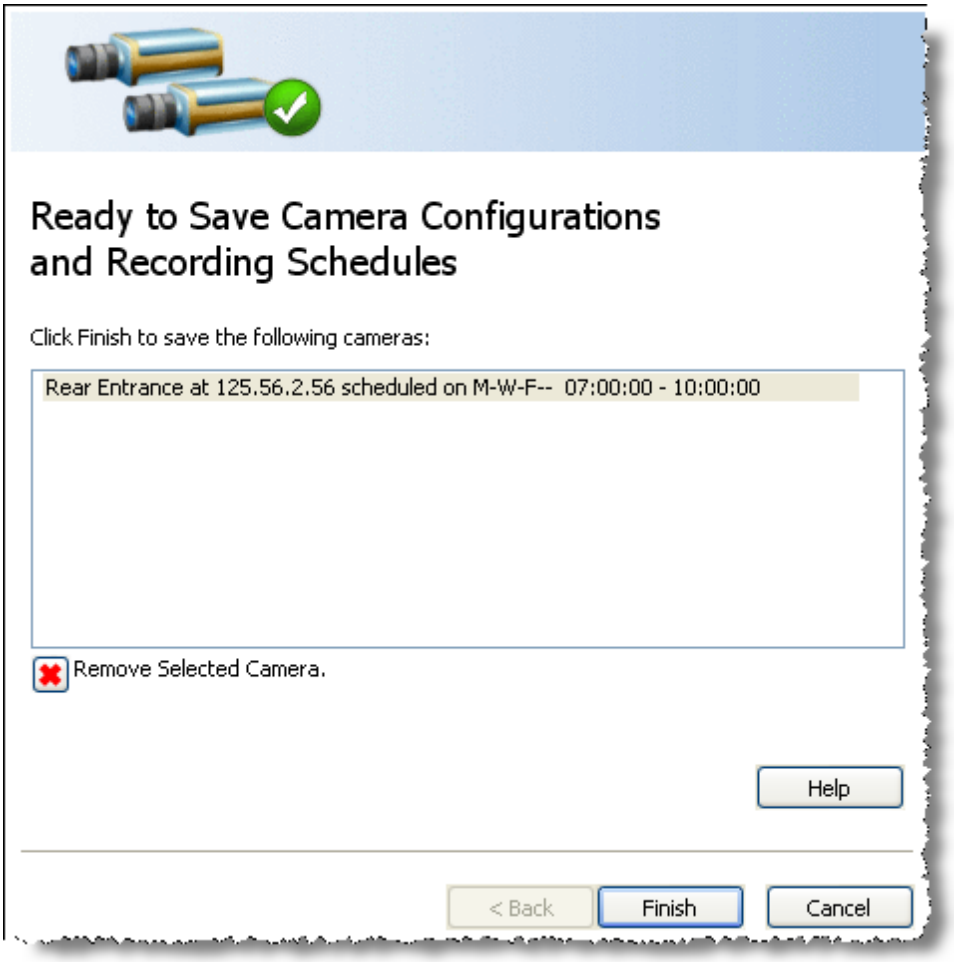
- Select the computer for recording video from the drop down list.
- Click **Next**. The Ready to Add window appears.



- Review the information. To change anything, use the **Back** button to go to the appropriate wizard screen.
- Click **Next**. The List of Cameras Added window appears.



- The cameras added during the wizard session are listed. To remove any camera, select it and then click the **Remove Selected Camera** button.
- If you do not want to add another camera, select **No**. To add another camera, select **Yes** in order to cycle through the wizard again. Click **Next**.
- If you have no more cameras to add, the Ready to Save Camera Configurations and Recording Schedules window appears.


Ready to Save Camera Configurations and Recording Schedules
Click Finish to save the following cameras:
Rear Entrance at 125.56.2.56 scheduled on M-W-F-- 07:00:00 - 10:00:00
Remove Selected Camera.
Help
< Back
Finish
Cancel

- The list of cameras ready for saving, is displayed. To remove any camera, select it and then click the **Remove Selected Camera** button.
- Click **Finish**. The Add Camera Wizard closes, and the focus is in the main Camera Policies application window.

Through configuring a camera and setting a schedule for it to record, you created a new recording policy that is listed on the left side of the main Camera Policies application.

Add an IP Camera - Standard Mode

The Add New Camera Wizard 53 generally provides the quickest and easiest way to set up an IP camera and start to record video into the Buffalo Surveillance Server Information Repository. If your camera manufacturer or model are not found on the network, the wizard cannot be used and you must add it manually, as described below.

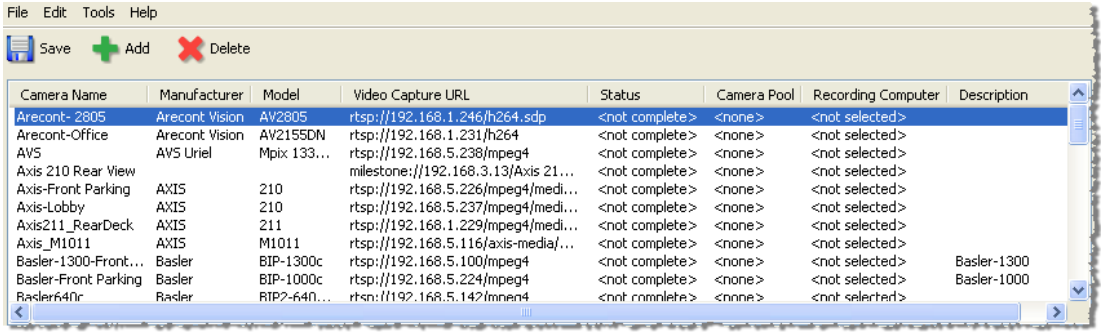
To be able to view and record live video feeds, you must ensure that RTSP is enabled on your IP camera. See your camera's documentation for details on enabling RTSP.

To learn how to view live feeds, see the section titled Search for & Export Surveillance Video Files > View Live Camera Feeds 284.

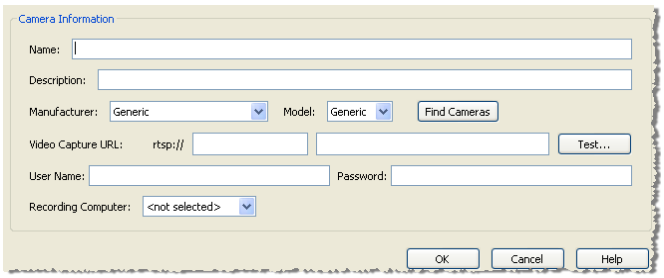
This procedure assumes that you are using the standard mode for Camera Policies. If you are using Advanced Mode 51, see Add an IP Camera - Advanced Mode 66.

To add an IP Camera Configuration:

- From the toolbar at the top of the Camera Policies 49 application, click to open the Camera Configurations window:



- Click to add a camera. The **Add New Camera** window appears:



- Fill in or select the following fields as needed:

Field	Results
Name and/or Location	A user defined value used in the menus and configuration file, this is the name of the camera. The name entered is for identification purposes only. It is best to use a naming convention and a descriptive name.

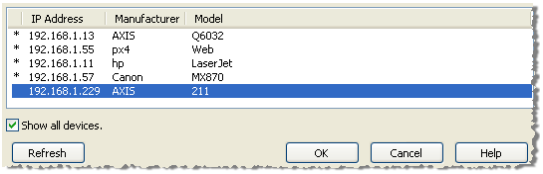
Field	Results
Description	A user defined value used in the menus and configuration file, this is a description of the camera.
Manufacturer	The manufacturer of the camera. The Video Capture URL populates automatically.
Model	A user defined value, this is the camera's model number. Video Capture URL populates automatically.
Video Capture URL	The RTSP URL of the camera that enables the Buffalo Surveillance Server to capture video feeds. ▸ In the first text box displays the IP address for the selected camera. The second text box populates automatically with a known camera manufacturer and model. Test the RTSP URL by clicking **Test**. If the test fails, see Troubleshoot Camera Connection Problems for troubleshooting steps. If the camera is not listed and you are unsure of your camera's RTSP URL, check with the camera's manufacturer.
User Name	If the camera requires a user name and password to be accessed, this is the username. This field works in conjunction with Password.
Password	If the camera requires a user name and password to be accessed, this is the password. This field works in conjunction with User Name.
Recording Computer	Select from the drop-down list a computer that captures a video feed from your camera.

- When you are finished selecting options and entering values, click **OK**.
- Click to save the new camera configurations and add the camera to the Information Repository.
- Repeat this process for each camera to add.

When you use Camera policies 49 to add a Buffalo Surveillance Server supported RTSP enabled IP camera, the Buffalo Surveillance Server automatically configures camera settings and preserves motion detection metadata along with captured video. This data is then used by the Surveillance Video Manager (SVM) application to create histograms of detected motion. See the section titled Motion Detection Camera Configuration 145 for information about supported cameras and configuration.

Search Results window

From the Add New Camera window, click the **Find Cameras** button for the Search Results window to appear, showing a list of cameras found on the network. The camera list is pulled from a pre-populated list of manufacturers. If your camera is not on the list, select the **Show all devices** check box for any additional cameras on the network and other devices to display. If your camera still does not display, you can add it manually in Camera Configurations. In the Search Results window, cameras in use appear grayed-out and available cameras for configuration have an asterisk (*) in the first column. Select a camera and click **OK**, or double-click the camera item for the camera information to configure.



Add an IP Camera - Advanced Mode

The Add New Camera Wizard 53 generally provides the quickest and easiest way to set up an IP camera and start to record video into the Buffalo Surveillance Server Information Repository.

If you are a more advanced user and want to set additional camera configuration options, such as specifying a Camera Pool, or alternative frame size, or enabling PTZ, use the procedure below.

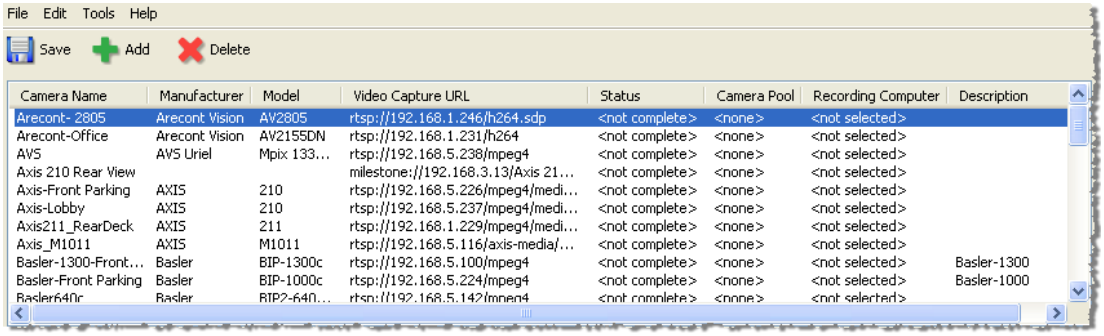
To be able to view and record live video feeds, you must ensure that RTSP is enabled on your IP camera. See your camera's documentation for details on enabling RTSP.

To learn how to view live feeds, see the section titled, Search for & Export Surveillance Video Files > View Live Camera Feeds 284.

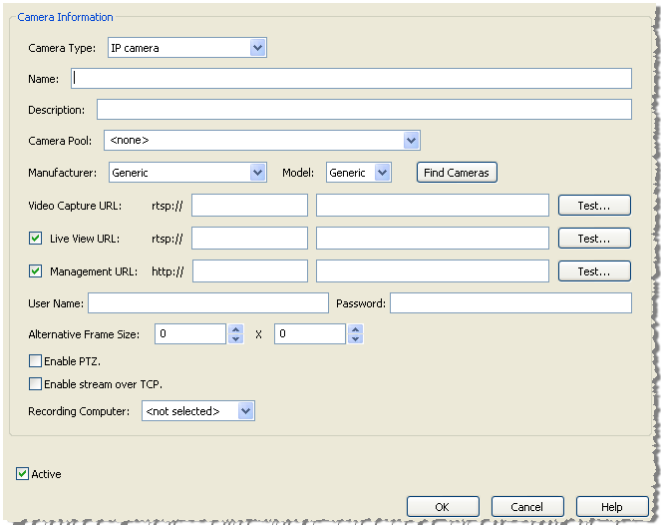
This procedure assumes that you are using Advanced Mode 51 in Camera Policies. If you are using the standard mode, see Add an IP Camera - Standard Mode 63.

To add an IP Camera Configuration:

- From the toolbar at the top of the Camera Policies 49 application, click to open the Camera Configurations window:



- Click to add a camera. The **Add New Camera** window appears:



- Fill in or select the following fields as needed:

Field	Results
Name and/or Location	A user defined value used in the menus and configuration file, this is the name of the camera. The name entered is for identification purposes only. It is best to use a naming convention and a descriptive name.
Description	A user defined value used in the menus and configuration file, this is a description of the camera.

Field	Results
Camera Pool	A camera pool is a user defined virtual grouping of cameras to search video from specified cameras. For example, a camera pool called "Doors" that includes all of the cameras that cover the doors of your establishment. When you need to see who's come or gone, select the "Doors" camera pool as a search criteria, and only video captured from cameras in the "Doors" camera pool are included. There is no limit to the number of camera pools your Buffalo Surveillance Server solution may have.
Manufacturer	The manufacturer of the camera. The Video Capture URL populates automatically.
Model	A user defined value, this is the camera's model number. Video Capture URL populates automatically.
Video Capture URL	The RTSP URL of the camera that enables the Buffalo Surveillance Server to capture video feeds. ▸ In the first text box displays the IP address for the selected camera. The second text box populates automatically with a known camera manufacturer and model. Test the RTSP URL by clicking **Test**. If the test fails, see Troubleshoot Camera Connection Problems for troubleshooting steps. If the camera is not listed and you are unsure of your camera's RTSP URL, check with the camera's manufacturer.
Live View URL	View live video feeds using the Live Viewer application or the Surveillance Video Manager 284. By default, this option is enabled. The RTSP URL allows a live view from your camera. ▸ In the first field, enter the IP address or hostname for the selected camera. The second field is populated automatically when you select a camera manufacturer and model. You can also enter the entire URL manually. You can test the RTSP URL by clicking **Test**. If the test fails, see Troubleshoot Camera Connection Problems for troubleshooting steps.

Field	Results
	If your camera is not listed and you are unsure of your camera's RTSP URL, check with your camera's manufacturer.
Management URL	Enables camera management from a web browser when this type of functionality is supported by the camera. If you select the checkbox, the fields to the right are for the RTSP URL of the camera that enables you to manage your camera. This is an http address provided by the manufacturer. You can test the URL you have entered by clicking **Test**. If the test fails, ensure you have entered the correct URL and that your camera and camera manufacturer support on-line camera management.
User Name	If the camera requires a user name and password to be accessed, this is the username. This field works in conjunction with Password.
Password	If the camera requires a user name and password to be accessed, this is the password. This field works in conjunction with User Name.
Alternative Frame Size	The height and width, in pixels, of video images. Use this field if you want to define a frame size that is different from the camera's default. The first field is for width; the second field is for height.
Enable PTZ	"PTZ" stands for "pan, tilt, zoom." This setting enables the pan, tilt, and zoom functionality for the camera when PTZ functionality is supported by the camera. For PTZ to work, this option must be selected.
Enable stream over TCP	Causes the RTSP capture to stream data over a TCP connection rather than over a default HTTP connection.
Recording Computer	Select from the drop-down list a computer that captures a video feed from your camera.
Active	Determines whether the camera is active or inactive. To capture video and view live feeds, this option must be selected. If this box is not checked, any policy that uses this camera will not run.

- When finished selecting options and entering values, click **OK**.

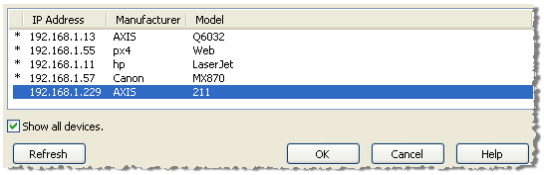
- Click to save the new camera configurations and add the camera to the Information Repository.

- Repeat this process for each camera to add.

When you use Camera policies 49 to add a Buffalo Surveillance Server supported RTSP enabled IP camera, the Buffalo Surveillance Server automatically configures camera settings and preserves motion detection metadata along with captured video. This data is then used by the Surveillance Video Manager (SVM) application to create histograms of detected motion. See the section titled Motion Detection Camera Configuration 145 for information about supported cameras and configuration.

Search Results window

From the Add New Camera window, click the **Find Cameras** button for the Search Results window to appear, showing a list of cameras found on the network. The camera list is pulled from a pre-populated list of manufacturers. If your camera is not on the list, select the **Show all devices** check box for any additional cameras on the network and other devices to display. If your camera still does not display, you can add it manually in Camera Configurations. In the Search Results window, cameras in use appear grayed-out and available cameras for configuration have an asterisk (*) in the first column. Select a camera and click **OK**, or double-click the camera item for the camera information to configure.



Troubleshoot Camera Connection Problems

This section is to help diagnose camera configuration problems that may be preventing the Buffalo Surveillance Server from working with the RTSP enabled IP camera. If the RTSP URL has been entered and the camera did not work when you clicked **Test**, ensure that:

❑ The camera is properly connected to the network.

❑ You selected the correct manufacturer in the Buffalo Surveillance Server camera configuration.

❑ You selected the correct model in the Buffalo Surveillance Server camera configuration.

❑ You entered the correct IP address in the Buffalo Surveillance Server camera configuration. Check the camera's documentation to determine how to detect the correct IP address.

❑ The correct path was entered by the Buffalo Surveillance Server or you entered the correct path. Check your camera's documentation to determine the correct path.

❑ If your camera has security enabled, the user name and password in the Buffalo Surveillance Server camera configuration are correct for viewing or managing the camera.

❑ The camera is configured to enable RTSP viewing with either MPEG4 or H.264 formats. MPEG4 or H.264 are the formats preferred by the Buffalo Surveillance Server.

Add a VMS-managed Camera Configuration

To capture video from your VMS, you need to add the configurations for cameras managed by those systems to your Information Repository. When you add camera configurations, the Buffalo Surveillance Server tracks them and they are listed on the Camera tab of every Camera Policies application on any networked computer comprised by the Information Repository.

Video capture from VMS systems may not be available, depending on your hardware device and depending on your product license.

- Add a Milestone-managed Camera 71
- Add an OnSSI-managed Camera Configuration 74

Add a Milestone-managed Camera

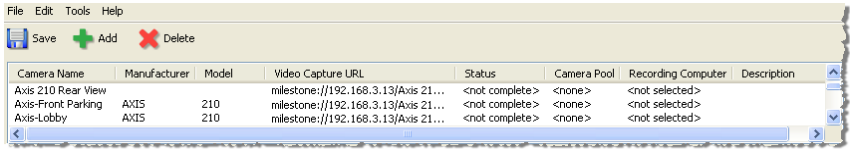
Before you configure cameras managed by Milestone XProtect, you'll need to know the name or the IP address of the server where your Milestone installation resides, as well as a user name and password of a Basic User to access the Milestone database.

Video capture from VMS systems may not be available, depending on your hardware device and depending on your product license.

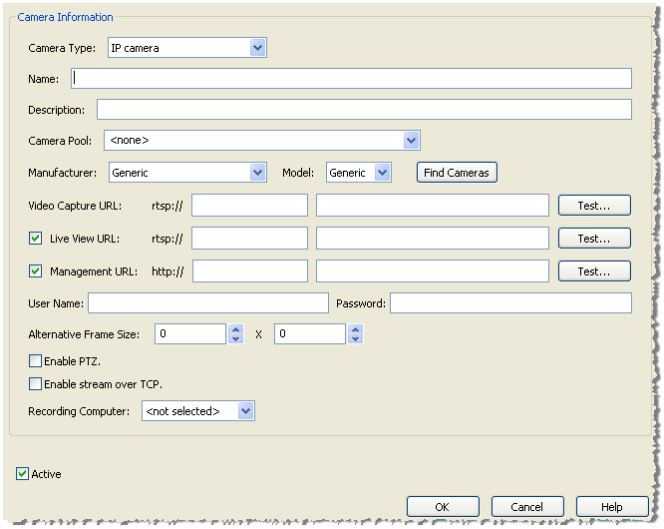
You must be in Advanced Mode 51 to perform this procedure.

To add a Milestone-managed camera:

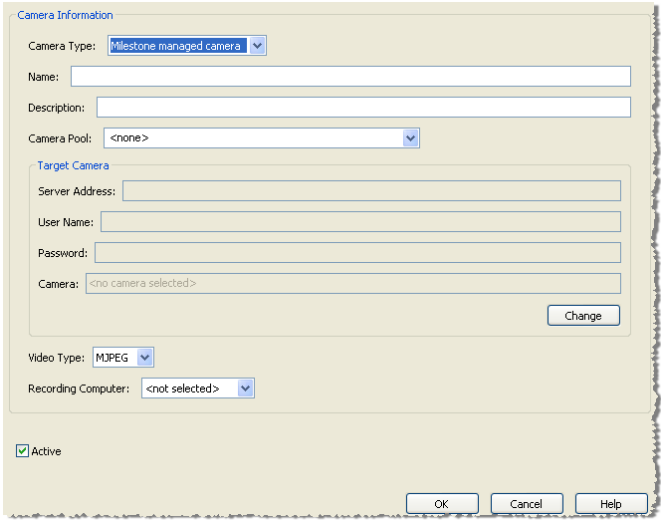
- From the **View** menu on the Camera Policies menu bar, select **Enable Advanced Mode**.
- From the toolbar, click to open the Camera Configurations window. The **Camera Configurations** window appears:



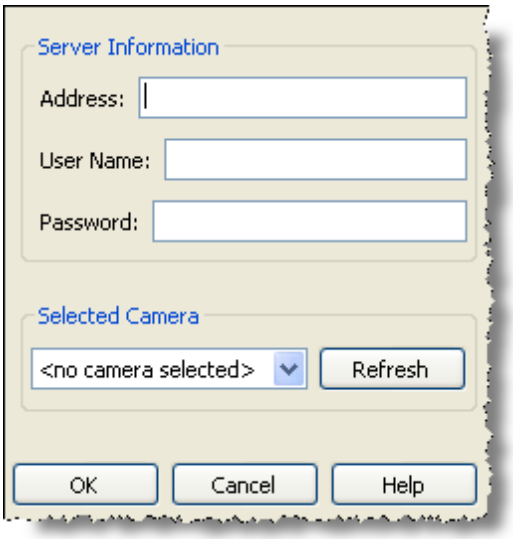
- Click to add a new camera configuration. The **Add New Camera** window appears.



- Select **Milestone managed camera** from the **Camera Type** drop down list. The relevant fields are displayed.



- In the next two fields, enter the name and/or location of the camera, and a description.
- If you want the camera to be associated with a Camera Pool, select it from the drop down list.
- In the Target Camera section, click **Change** to populate the fields. The Modify Target Camera dialog box appears.



- Fill in the following fields:

Field	Results
Address	The host name or IP address of the image server from which you want to extract video.
User Name	The user name can be either a Basic User or a Windows Domain User. When Basic User, user is just the user name. If a Windows Domain User, then the user name format is "<user>@<domain>" where user is the user and domain is the Windows domain the user is valid within.
Password	Your Basic User password for the Milestone database.

- Click **Refresh** to update the list of cameras associated with the server, and then select the camera whose video you want to capture into the Buffalo Surveillance Server.
- Click **OK** to close the dialog box.
- In the **Video Type** field, select the format in which the extracted video should be stored.
  - MJPEG stores video in the same format in which it was stored in Milestone, and takes the same amount of space.
  - H.264 is a loss-less format that takes 30% to 70% less storage space.
- In the **Recording Computer** field, select from the drop-down list a computer that captures a video feed from your camera.
- Select the **Active** check box if you want to make the camera available for capturing video if a policy references it, or leave it inactive.
- Click **OK** to close the Add New Camera dialog box.

- Click to save the new camera configuration and add it to your Information Repository.

Add an OnSSI-managed Camera

Before you configure cameras managed by OnSSI, you'll need to know the name or the IP address of the server where your OnSSI installation resides, as well as a user name and password of a Basic User to access the OnSSI database.

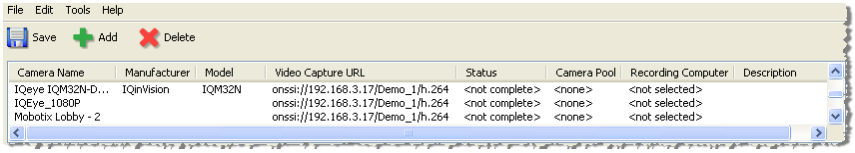
Video capture from VMS systems may not be available, depending on your hardware device and depending on your product license.

You must be in Advanced Mode 51 to perform this procedure.

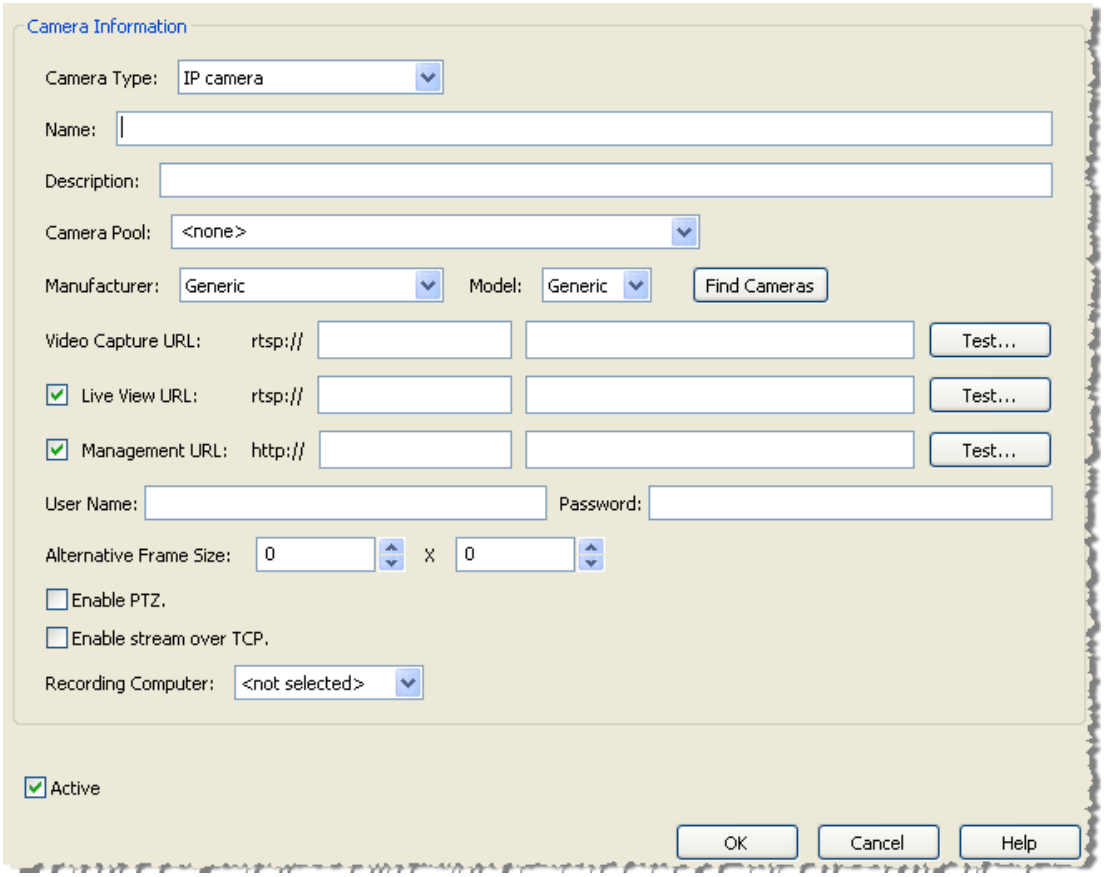
To configure an OnSSI-managed camera:

- From the **View** menu on the Camera Policies menu bar, select **Enable Advanced Mode**.

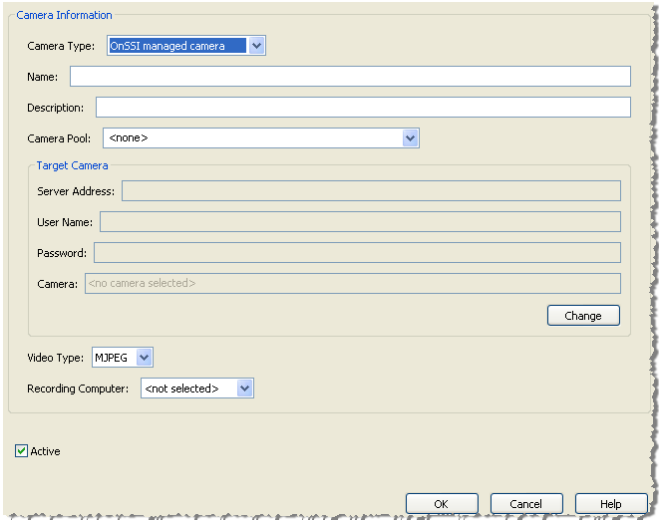
- From the toolbar, click to open the Camera Configurations window. The **Camera Configurations** window appears:



- Click to add a new camera configuration. The **Add New Camera** window appears.

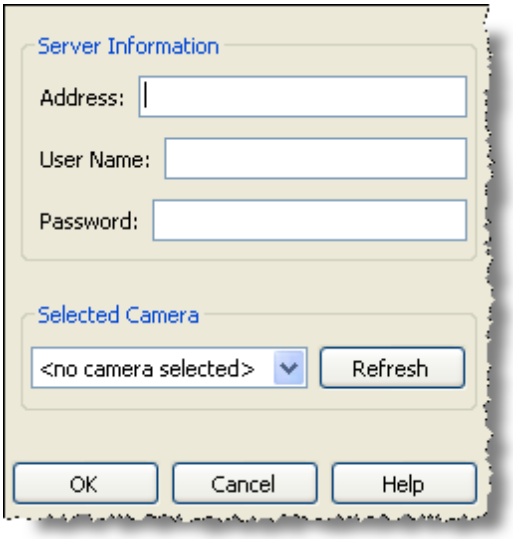


- Select **OnSSI managed camera** from the **Camera Type** dropdown list. The relevant fields are displayed.



- In the next two fields, enter the name and/or location of the camera, and a description.
- If you want the camera to be associated with a Camera Pool, select it from the dropdown list.

- In the Target Camera section, click **Change** so that you can fill in the fields. The Modify Target Camera dialog appears.



- Fill in the following fields:

Field	Results
Address	The host name or IP address of the image server from which you want to extract video.
User Name	The user name can be either a Basic User or a Windows Domain User. When Basic User, user is just the user name. If a Windows Domain User, then the user name format is "<user>@<domain>" where user is the user and domain is the Windows domain the user is valid within.
Password	Your Basic User password for the OnSSI database.

- Click **Refresh** to update the list of cameras associated with the server, and then select the camera whose video you want to capture into the Buffalo Surveillance Server.
- Click **OK** to close the dialog.
- In the **Video Type** field, select the format in which the extracted video should be stored.
  - MJPEG stores video in the same format in which it was stored in OnSSI, and takes the same amount of space.
  - H.264 is a loss-less format that takes 30% to 70% less storage space.
- In the **Recording Computer** field, select from the drop-down list a computer that captures a video feed from your camera.

- Select the **Active** check box if you want to make the camera available for capturing video if a policy references it, or leave it inactive.
- Click **OK** to close the Add New Camera dialog.
- Click to save the new camera configuration and add it to your Information Repository.

Modify a Camera Configuration

Modify an Existing Camera Configuration

To modify an existing camera configuration:

- From the toolbar at the top of the Camera Policies 49 application, click to open the Camera Configurations window. The **Camera Configurations** window appears, populated with a list of all of the cameras configured in the Information Repository.
- Select the camera you want to modify from the list.
- From the menu at the top of the window, select **Edit** > **Modify Selected Camera**. The **Modify Camera** window appears. It is populated with camera parameters for the selected camera and otherwise identical to the Add Camera window.
- Change the options and values as needed, and then click **OK**.
- Click at the top of the Camera Configurations window to save the modified camera.

Right-click the camera of interest for easy access to edit, live view, manage, and delete functionality.

Delete a Camera Configuration

Delete an Existing Camera Configuration

To delete an existing camera configuration:

- From the toolbar at the top of the Camera Policies 49 application, click to open the Camera Configurations window. The **Camera Configurations** window appears, populated with a list of all of the cameras configured in the Information Repository.
- Select the camera to delete from the list.
- Click . A confirmation window appears.

- If you are certain that you want to delete the camera configuration from Information Repository, select **Yes**. The camera is deleted from your Information Repository and the list in the **Camera Configurations** window.

- Click at the top of the Camera Configurations window to save the modified camera configurations.

Right-click the camera of interest for easy access to edit, live view, manage, and delete functionality.

Delete All Camera Configurations

To delete all camera configurations:

- From the menu at the top of the Camera Policies application, select **Tools** > **Cameras**. The **Camera Configurations** window appears, populated with a list of all of the cameras configured for your system.

- From the menu at the top of the window, select **Edit** > **Delete All Cameras**. A confirmation window appears.

- If you are certain that you want to delete all camera configurations from your entire Information Repository, select **Yes**.

- Click at the top of the Camera Configurations window to save changes.

Import and Export Camera Configurations

This overview is intended for advanced users. It provides directions for exporting and importing camera configurations, and it details the format of the file that is created whenever you export camera configurations from Camera Policies. While it is best to use Camera Policies to change your camera configurations, you can also do so by creating and importing a specially formatted file.

Export Current Camera Configurations to a File

- From the menu at the top of the Camera Policies application, select **Tools** > **Camera Configurations**. The **Camera Configurations** window appears.

- From the menu at the top of the **Camera Configurations** window, select **File** > **Export to**. The **Export to** window appears. The default file name is **Cameras.cfg**. You can use whatever filename you wish.

- Select the location to which you want to export the file, and then click **Save**. The file is saved to the location you selected.

Import a Configuration From a File

- From the menu at the top of the Camera Policies application, select **Tools** > **Camera Configurations**. The **Camera Configurations** window appears.
- From the menu at the top of the **Camera Configurations** window, select **File** > **Import from**. The **Import from** window appears.
- Navigate to the file location where you have saved your camera configurations file, select it, and then click **Open**. The camera configurations from the file are added to the Camera Configurations window.
- Click to save the modified camera configurations to your Information Repository.

Before you can import a camera configuration file, you must create one. The following sections contain reference information for doing so.

Camera Configuration File Structure

Camera configuration files are block structured but free from any column or order formatting. The tokens listed below specify camera parameters. Each "policy_name" block is a single camera.

```
policy_name="<camera name>"
[
     <token>=<value>
     <token>=<value>
     . . .
]
policy_name="<camera name>"
[
     <token>=<value>
     <token>=<value>
     . . .
]
. . .
```

Token/Value Pairs

Tokens define camera attributes and functionality. Following are the tokens and their definitions.

Token/Value	Description
active=<*Boolean*>	Determines whether the camera is active or inactive. For Live View and camera Management to work, this option must be set to true. Valid values: true | false Default = true
description="<*character string*>"	A user defined value used in the menus and configuration file, this is a description of the camera. Default = ""
frame_height = "<*integer*>"	The height of the video frame. Works in conjunction with camera_frame_width. Default = 0
frame_width = "<*integer*>"	The width of the video frame. Works in conjunction with camera_frame_height Default = 0
live_view_enable=<*Boolean*>	Enables SVM to receive and display live feeds from the camera. Valid values: true | false Default = true
live_view_url="<*pathname*>"	The RTSP URL used to live view video from the camera. Default path = ""
manufacturer="<*character string*>"	The manufacturer of the camera. Default = "Generic"
mgmt_enable=<*Boolean*>	Enables camera management from a web browser when this type of functionality is supported by the camera. Valid values: true | false Default = true
mgmt_url="<*URL*>"	The URL used to manage the camera. Default URL = ""

Token/Value	Description
model="<*character string*>"	A user defined value, this is the camera's model number. Default = "Generic"
name="<*character string*>"	Required. Must match the "policy_name". A user defined value used in the menus and configuration file, this is the name of the camera. Default = ""
password="<*character string*>"	The password for the camera when a password is required to access the camera. Default = ""
policy_name="<*camera name*>"	Required. Must match "camera_name". If you created your configuration using the Surveillance Video Manager, this value is generated by the Surveillance Video Manager from "camera_name". Indicating the beginning of a camera block, the name for the policy that defines camera parameters. Default = ""
pool="<*character string*>"	A camera pool is a user defined virtual grouping of cameras that enables you to search video from only specified cameras. There is no limit to the number of camera pools your Buffalo Surveillance Server solution may have, and apart from hardware limitations, there is no limit on which and how many cameras you may add to a camera pool. Default = ""
ptz_enable=<*Boolean*>	"PTZ" stands for "pan, tilt, zoom." This setting enables the pan, tilt, and zoom functionality for the camera when PTZ functionality is supported by the camera. For PTZ to work, this option must be selected. Valid values: true | false Default = false

Token/Value	Description
stream_over_tcp = "<*Boolean*>"	Causes the RTSP capture to stream data over a TCP connection rather than over a default HTTP connection. Default = false
type="<*character string*>"	The policy type of the file. Default = "camcfg"
user_name="<*character string*>"	The user name of the camera when a user name is required to access the camera. Default = ""
version= "<*number*>"	The version number of the currently installed application. Only the current version number is valid. This number will change.
video_capture_url="<*url*>"	The RTSP URL used to capture video from the camera. Default = ""

Sample Cameras.cfg File

```
#
# Generated from 'Camera Config Policy Writer' version: 1.0 on 2011/02/02 10:58:23
#

policy_name = "ACT-Lobby"
[
     type                    = "camcfg"
     version                 = "1.0"
     active                  = false
     name                    = "ACT-Lobby"
     description             = ""
     model                   = "TCM-4301"
     manufacturer            = "ACTi"
     pool                    = ""
     user_name               = "admin"
     password                = "123456"
     video_capture_url       = "rtsp://192.168.5.240:7070/"
     live_view_url           = "rtsp://192.168.5.240:7070/"
     mgmt_url                = "http://192.168.5.240:7070/"
     frame_width             = 0
     frame_height            = 0
     ptz_enable              = false
     live_view_enable        = true
     mgmt_enable             = true
     stream_over_tcp         = false
     owner                   = ""
]

# end of object rule for Camera 'ACT-Lobby'


policy_name = "ACTi Lobby - 2"
[
     type                    = "camcfg"
     version                 = "1.0"
     active                  = true
     name                    = "ACTi Lobby - 2"
     description             = ""
     model                   = ""
     manufacturer            = ""
     pool                    = ""
     user_name               = "user"
     password                = "password"
     video_capture_url       = "milestone://192.168.2.39/ACTi Lobby - 2/mjpeg"
     live_view_url           = ""
     mgmt_url                = ""
     frame_width             = 0
     frame_height            = 0
     ptz_enable              = false
     live_view_enable        = false
     mgmt_enable             = false
     stream_over_tcp         = false
     owner                   = ""
]

# end of object rule for Camera 'ACTi Lobby - 2'
```

```
policy_name = "Arecont AV2805"
[
     type                      = "camcfg"
     version                   = "1.0"
     active                    = true
     name                      = "Arecont AV2805"
     description               = "AV2805"
     model                     = "AV2805"
     manufacturer              = "Arecont Vision"
     pool                      = ""
     user_name                 = ""
     password                  = ""
     video_capture_url         = "rtsp://192.168.1.246/h264.sdp"
     live_view_url             = "rtsp://192.168.1.246/h264.sdp"
     mgmt_url                  = "http://192.168.1.246/"
     frame_width               = 0
     frame_height              = 0
     ptz_enable                = false
     live_view_enable          = true
     mgmt_enable               = true
     stream_over_tcp           = false
     owner                     = ""
]

# end of object rule for Camera 'Arecont AV2805'
```

Create, Modify, or Delete Recording Policies

Recording policies run on an assigned computer. They define when video is recorded or captured and where it goes in the Information Repository.

Policies contain process parameters that include media, camera, and data destination values. The policy you create is listed in the left panel of the Camera Policies window, in the policy selection frame, and is saved as part of the active configuration.

Recording policies are visible to all computers in the Information Repository that are running the Camera Policies application and that have appropriate permissions.

If at any time after you add a policy you find that it no longer meets your needs, you can always modify or delete it by following the directions below.

Duplicate policy names are permitted.

- Create a Policy 85
- Modify a Policy 86
- Delete a Policy 87

Creating a Recording Policy: Overview

For most users, the quickest and easiest way to set up a camera and schedule and record video is to use the Add Camera Wizard 53.

If you cannot use the Add Camera Wizard (for example, if your camera information is not included in the manufacturer or model list) you can create a recording policy in Basic Mode manually as explained below.

Also, if you want to set up and define additional recording configuration options, you can use the Advanced Mode 51 of the Camera Policies application.

To create a recording policy (Standard Mode):

1. Launch the Camera Policies 49 application.
2. The Camera tab 104 should already have focus. Select the video recording or capturing options you desire.
3. Select the Scheduling tab 129 to choose whether to schedule recurring jobs or individual jobs.
4. Click to save all policy settings and implement the recording policy.

To create a recording policy (Advanced Mode):

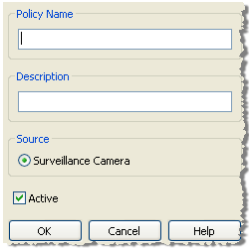
1. Launch the Camera Policies 49 application.
2. The Camera tab 104 should already have focus. Select the video recording or capturing options you desire.
3. Select the Processing tab 121 to define video and file processing options.
4. Select the Destination tab 123 to define the Vault, media, and/or storage pool to which video will be recorded or captured.
5. Select the Scheduling tab 129 to choose whether to schedule recurring jobs or individual jobs.
6. Select the Advanced tab 131 to set options such as Pre-Process Commands, Log Files Location, etc.
7. Click to save all policy settings and implement the recording policy.

Create a Recording Policy

This procedure assumes that you are using the standard mode for Camera Policies. If you are using Advanced Mode 51, you can configure numerous additional options using the additional fields and tabs displayed in the main Camera Policies window.

To create a recording policy:

- In the Camera Policies application toolbar, click to create a new policy. The **Create a Policy** window appears:



- Enter a name and description for the policy. The name should tell you something about the policy so that you can know what it does later on without having to open it. For example, if you have a policy that is capturing or extracting video from the main entrance, you might call it FrontEntrance.
- Ensure that the policy is active, or uncheck the **Active** checkbox if you do not want the policy to run. When the **Active** checkbox is unchecked, the ⚠ symbol is superimposed over the policy icon in the **Policy Name** frame.
- Click **OK** to close the Create a Policy window.
- In the first field of the Camera Tab of the main Camera Policies window, select the camera configuration the policy applies to.
- In the Scheduling tab 129, select when you want to record video.
- Click to save all policy settings and implement the policy.

Recording policies are visible to all computers in the Information Repository that are running the Camera Policies application and that have appropriate permissions.

Modify a Recording Policy

You can modify a recording policy's name, and description.

- Double-click the policy name in the **Policy Name** frame. The **Modify Selected Policy** window appears.
- Enter the new policy name in the **Policy Name** text box.
- Ensure the policy is active, or de-select the **Active** check box if you do not want the policy to run. When the **Active** check box is de-selected, the ⚠ symbol is superimposed over the policy icon in the **Policy Name** pane.

- Click **OK**. The window closes, the policy name and description appear in the **Policy Name** pane.
- Modify the parameters as needed on each tab for the policy. See the subsequent sections for details.
- Click to save all policy settings and implement the policy.

If you modify a recording policy while a job is running based on that policy, the job will stop as soon as it is finished processing the current file. The job will restart as scheduled. For example, if a job runs every day, starts at 11:00 AM, and runs for 30 minutes, and while the job is running you modify the policy, the job will stop. If the scheduled start time was not changed, the job will start at 11:00 AM the next day.

When you modify a recording policy and then click Save, any other users who have the Camera Policies application open will see a popup message asking them whether they want to save or accept the changes. If they do not, your changes will not take effect.

Delete a Recording Policy

You can delete a policy that no longer meets your needs, or you can de-activate a policy at present and re-activate it at a later time when needed.

To delete a policy:

- In the **Policy Name** pane, click the policy to delete.
- Click .
- Click to save all policy settings and implement the policy.

If you delete a policy while a job is running based on that policy, the job will stop as soon as it is finished processing the current file.

To make an active policy inactive:

- In the **Policy Name** pane, double-click the policy.
- In the **Modify Selected Policy** window, de-select the **Active** check box.

Import or Export Recording Policies

This section is intended for advanced users. Buffalo Surveillance Server policy importing and

exporting functionality allows you to save policies, restore policies, and copy sets of policies from one computer to another. After creating a set of policies, Export them to a policy file. Later, if you want to re-implement the set of policies or implement them for the first time on another computer, simply Import them. Use the import and export functionality to take a snapshot of the working policy configuration, bring new computers on-line, test different policy configurations, or restore user corrupted policy configurations.

By default, recording policies are exported to **CameraPolicies.cfg**. Data service policies are exported to **DataSvcsSvc.cfg**.

Although each policy editor uses only one policy set at a time, multiple policy sets exported to policy files can be used. Create, name, and use any file naming convention for policy files, and be sure to keep track of where policies are exported to if it is a location other than the default location (the user's home directory).

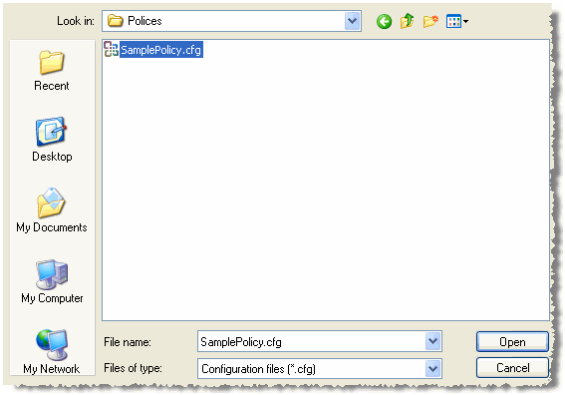
Before restoring a set of policies to a computer that currently has policies set up, be sure to delete all of the current policies before importing other policies - otherwise imported policies are added to current policies.

Data Service policies are incompatible with other client policies and vice versa. If you try to import a Data Service policy into a non-Data Services policies client (or vice versa), you will get an error message, and no policies are added.

Import Policies

When you import policies, they are added to the policies that are already in the policy editor.

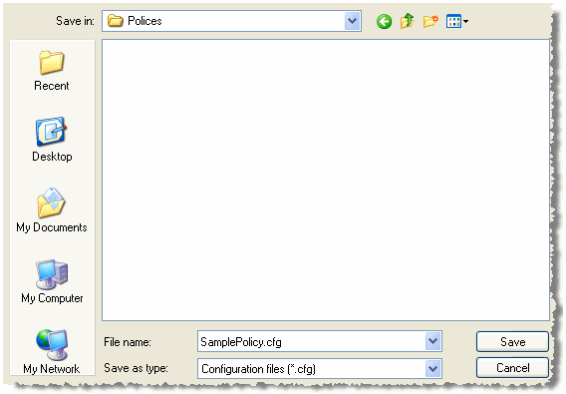
- In the Policy Editor menu, click **File** > **Import from**. The Import From window appears.



- If you are not importing policies from your local computer, navigate to the networked computer that contains the policies that you need.
- Select the policy file that contains the policies that you want to use.
- Click **Open**. The policies in the configuration file are implemented.

Export Policies

- Create policies that you require.
- In the Policy Editor menu, click **File** > **Export to**. The Export to window appears.



- To save your policies with the default policy file name, click **Save** without entering a new file name.

Or,

- To save your new policies under a new policy file name, enter a new name In the Export to window, and then click **Save**.

Import/Export Policy File Structure

An exported policy file is block structured but free from any column or order formatting. The tokens listed below specify job criteria. By default, the Buffalo Surveillance Server exports policies to and imports them from the locations below:

Data Service Policies	<install-dir>/Config/DataSvcsSvc.cfg.
Camera Policies	<install-dir>/Config/CameraPolicies.cfg.

Files that contain policies are formatted as follows. Each policy is a single block. The beginning of each block is indicated by `policy_name="<policy name>".`

```
policy_name="<policy name>"
[
     <token>=<value>
     <token>=<value>
     . . .
]
policy_name="<policy name>"
[
     <token>=<value>
     <token>=<value>
     . . .
]
. . .
```

Token/Value Pairs (Standard and Camera)

A token is a job attribute that is given a value which determines how a job will be run. Following are the tokens and their definitions.

Standard

Token/Value	Description
act_log_enabled="<*Boolean*>"	Enables the creation of activity logs. Valid values: true | false Default = false
act_log_pn="<*pathname*>"	Defines the path for the activity log. Supports token substitution. Default path = ""
absolute_start="<*yyyy*>/<*mm*> /<*dd*>-<*hh*>:<*mm*>:<*ss*>"	Used only in the policy file. The exact start time and date that the job is to run. Multiple absolute start tokens may be entered.[1]
active="<*Boolean*>"	Used only in the policy file. Defines whether the policy is active or inactive. Valid values = true | false Default = true
admin_pn="<*pathname*>"	Specifies the directory that contains the log, retry, and history files. Supports token substitution. Default path = "<install-dir>/JobHistory/"

any_user_retrieve="<*Boolean*>"	Allows any user to retrieve a file in the job, regardless of the initial read access. Valid values = true | false Default = false
backup_data	Currently not supported.
backup_stub	Currently not supported.
complete="<*Boolean*>"	Prints all summary information plus the pathnames of the files ingested to the file indicated by the list_pn option (below). Valid values = true | false Default = false
compress	Currently not supported.
create_job_history="<*Boolean*>"	Creates job history files for each job. Valid values = true | false Default = false
data_paths="<*number*>"	The maximum number of concurrent files that can be sent. Default = 1
description="<*character string*>"	A description of the policy Default = blank
diag="<*Boolean*>"	Prints diagnostic information to the file indicated by the list_pn option (below). Valid values = true | false Default = false
dir_spec="<*pathname*>"	Specifies which directories to include. Multiple dir_spec options can be specified. The dir_spec check is made for every directory found. This includes the directories contained in the pathname list that the job will traverse. Default = "*" (any)

display_only="<*Boolean*>"	Causes job to search for but not store targeted files. Lists the files that would have been ingested. Valid values = true | false Default = false
dst_local_only="<*Boolean*>"	Causes job to use only a Vault local to the computer from which service is running. Valid values = true | false Default = false
dst_media_name="<*character string*>"	Specifies by name the destination media to be used. If you don't specify a value in this option, the Buffalo Surveillance Server uses the first available unit of media. Default = "*" (any)
dst_media_speed="<*character string*>"	Specifies the destination media to be used according to media speed. Valid values = • S0 - S10 • unspecified Default = unspecified
dst_media_type="<*character string*>"	Specifies the media type to be used for a job. Valid values = • Hdisk – hard disk • 8mm – Eight-millimeter tape • Dds – Digital data storage • Dlt – Digital linear tape • Ait – Advanced intelligent tape • SuperAit • Vxa - Exabyte Vxa tape • Travan - Travan tape • Lto – Linear tape open • MagOptical – Read/write optical

	• NullDevice • unspecified Default = unspecified
dst_storage_pool="<*alpha*>"	Specifies the name of the destination storage pool. Use "" for no storage pool name. Default = "*" (any)
dst_vault_name="<*character string*>"	Specifies the destination Vault name. If not specified, the first available Vault will be used. Default = "*" (any)
dst_volume_format	Currently not supported.
dst_volume_name	Currently not supported.
dst_volume_pack	Currently not supported.
dtu_type="<*alpha*><*yyyy*>/<*mm*>/<*dd*>-<*hh*>:<*mm*>:<*ss*>" or dtu_type=L"<*level*>"	Ingests files based on time and date or job level. Valid values = • AO (Absolute Old) – Selects files with a dtu (date_time_use) equal to or before the specified date. Enter the year as a 4-digit number. • AN (Absolute New) – Selects files with a dtu equal to or after the specified date. Enter the year as a 4-digit number. • RO (Relative Old) – Selects files with a dtu equal to or before the relative specified date. • RN (Relative New) – Selects files with a dtu equal to or after the relative specified date. • L0 – Ingests all files. • L1 – Ingests all data changed since the last L0 job. • L2 – Ingests all data changed since the last L1 job.

	• L3 – Ingests all data changed since the last L2 job. • L4 – Ingests all data changed since the last L3 job. Default = L0
error_log="<*pathname*>"	Specifies the path for the error log file. If you specify "/dev/tty", error messages will display on the default output device. Supports token substitution. Default path for the configuration file = "R/Logs/%P.err" Default path for the command line = "/dev/tty"
exclude_dir_spec="<*pathname*>"	Omits directories. Accepts multiple instances. Default = "" (no directories excluded)
exclude_file_spec="<*pathname*>"	Omits files. Accepts multiple instances. Default = "" (no files excluded)
ext_metadata="<*command*>"	Extended metadata in a token/value pairs. Token/values can be found in the Camera policies section titled, Metadata Tab and Configuration. Format: token="<command>"token="<command>"... Default = ""
ext_metadata_plugin="<*character string*>"	Enables the collection of extended metadata. Default = ""
file_grouping_plugin="<*character string*>"	Enables file grouping. Default = ""
file_spec="< *pathname*>"	Sets the criteria for files that are to be ingested. This token/value pair can be specified multiple times to include multiple file filters. Default = "*" (any)
follow_links	Currently not supported.

gen_low_res_proxy="<*Boolean*>"	Enables the Buffalo Surveillance Server to generate low resolution proxy videos at capture/ingest. Valid values = true | false Default = true
gen_preview_image="<*Boolean*>"	Enables the Buffalo Surveillance Server to generate preview image thumbnails at capture/ingest. Valid values = true | false Default = true
gen_video_components="<*Boolean*>"	Enables the Buffalo Surveillance Server to capture/ingest video files so they are readable by Buffalo Surveillance Server search applications. Valid values = true | false Default = false
host_Id="<*character string*>"	Where the tap service will run. Default = blank
include_offline	Currently not supported.
job_type="<*alpha*>"	Specifies the job type. Valid values = • backup • collapse • move Default = backup
list_pn="<*pathname*>"	Specifies the filename to which all report information is written. Supports token substitution. Default path for the configuration file is "%R/Logs/%P.log" Default path for the command line = "/dev/tty"
local_only="<*Boolean*>"	Specifies that the file to be ingested must reside on the local computer.

	Valid values = true | false Default = true
localize="<*Boolean*>"	Specifies that all subsequent files in the same job are sent to the same unit of media until it is full. Valid values = true | false Default = true
lock_vault	Currently not supported.
low_res_proxy_quality="<*setting*>"	Determines the quality of the low resolution proxy video. Valid values = High | Medium | Low Default = Medium
obj_type="<*character string*>"	The policy source. Valid values = • native_fs • mse_pst • mse_msg • surv_camera Default = native_fs
out_of_band="<*Boolean*>"	Enables the application to constantly monitor its processes and select the network transmission protocol that best suits the files being processed. Valid values = true | false Default = true
pathname="<*pathname*>"	Specifies the pathname that will be searched for files matching the options. Files, directories, and wildcard expressions are valid. This token/value pair can be specified multiple times to include multiple paths. No default
policy_name="<*policy name*>"	The job identifier. No default

post_proc_cmd="<*command*>"	Specifies a post-process command that runs immediately after the job is finished. Supports token substitution. Default = ""
pre_proc_cmd="<*command*>"	Specifies a pre-process command that runs immediately before the job starts. Supports token substitution. Default = ""
preview_image_quality="<*setting*>"	Determines the quality of the preview image. Valid values = High | Medium | Low Default = Medium
process_directories="<*Boolean*>"	Preserves the state of directories. Valid values = true | false Default = true
ref_id="<*character string*>"	Internal use only.
repeat_interval="<*hh:mm:ss*>"	Used only in the policy file. The amount of time that elapses before a job is repeated.[1] Default = 24:00:00
retry_time="<*alpha*><*yyyy*>/<*mm*>/<*dd*>-<*hh*>:<*mm*>:<*ss*>"	Specifies the date and time to retry the list of files not ingested. These files match all job criteria but were not sent to the Vault. You must precede the date/time value with an **A** to specify an absolute date and time or an **R** to specify a date and time relative to the end of the job. Enter the absolute year as a four-digit number (for example, 2001, 2002, etc.). Valid values = • A – Absolute date and time. • R – Relative date and time. Default = R0000/00/00-00:00:00 (retry files immediately after the job finishes)
save_low_res_proxy="<*Boolean*>"	Enables the user to save a copy of the low resolution proxy video at the location entered in save_low_res_proxy_dir_pn. Valid values = true | false

	Default = false
save_low_res_proxy_dir_pn="<*pathname*>"	The path at which the copy of the low resolution proxy video will be saved. Default path = ""
save_preview_image="<*Boolean*>"	Enables user to save a preview image at the path entered in save_preview_image_dir_pn. Valid values = true | false Default = false
save_preview_image_dir_pn="<*pathname*>"	The path at which the copy of the preview image will be saved. Default path = ""
start_days="<*mtwtfss*>"	Used only in the policy file. The days on which the job will run. Use **-** to indicate days that the job will not run. For example, if the job is to run on Thursday, you would enter ---t---.[1] Default = mtwtfss
start_time="<*hh:mm:ss*>"	Used only in the policy file. Specifies the time the job should start for each defined start day in start_days.[1] Default = 00:00:00 (midnight)
stop_time=R"<*yyyy*>/<*mm*>/<*dd*>-<*hh*>:<*mm*>:<ss>"	Used only in the policy file. Specifies the date and time at which the job will be stopped. The date and time entered is relative to the start of the job. R = relative to the start of the job. Default = R0 (no stop time)
summary="<*Boolean*>"	Prints the start and finish times of the job and the final statistics to the file indicated by the list_pn option (above). Valid values = true | false Default = true
system_info="<*Boolean*>"	Ingests system info and other system states. Valid values = true | false

	Default = false
throttle="<*setting*>"	Throttling controls the amount of bandwidth used by jobs (and, therefore, the speed at which files are sent to Vaults). Throttle values are relative to Information Repository capacity and range from 1% to 100%. A lower setting reduces the amount of available bandwidth that will be used. Default = 100
timestamp="<*alpha*>"	Specifies the timestamp of the file that is to be examined when determining if the file meets the dtu_type criteria. • atime - access time • mtime - modified time Default = mtime
type="<*alpha*>"	The policy type of the policy file. Only "tap" is valid for Camera policies. Default = tap
update_run_record="<*Boolean*>"	Updates the job run record (<install-dir>/ JobHistory/run_record.trr) whenever a "level" job runs. Valid values = true | false Default = true
vcs="<*alpha*><*max num files*>"	Specifies the number of files (F) or number of bytes (S) to ingest per single Vault connection. Valid values = • F – files • S – bytes • 1 - ∞ Default = F500
version="<*number*>"	The version number of the currently installed application. Only the current version number is valid. This number will change.

vid_extract_closed_caption="<*Boolean*>"	Enables Buffalo Surveillance Server to extract closed captioning data from a video at ingest. Valid values = true | false Default = true
vid_save_closed_caption="<*Boolean*>"	Enables the user to save a copy of the closed captioning data in a location specified by vid_save_closed_caption_dir_pn. Valid values = true | false Default = false
vid_save_closed_caption_dir_pn="<*pathname*>"	Specifies the path where the closed captioning file will be saved. Default path = "".

[1]**Note:** Timing tokens are mutually exclusive. Only one timing token may be set. In other words, you may set either absolute_start, or repeat_interval, or start_days AND start_time.

Camera

Token/Value	Description
camera_cache_pn = "<*character string*>"	Required. The location of the cache to hold the clips before sending to Vault. Default is ""
camera_clip_duration = "<*integer*>"	The length of clip that incoming video streams are captured into. Default = 1800 seconds
camera_description = "<*character string*>"	The description of the camera. Default = ""
camera_frame_height = "<*integer*>"	The height of the video frame. Works in conjunction with camera_frame_width. Default = 0 (indicates native frame height)
camera_frame_width = "<*integer*>"	The width of the video frame. Works in conjunction with camera_frame_height. Default = 0 (indicates native frame width)
camera_manufacturer = "<*character string*>"	The manufacturer of the camera. Default = ""
camera_model = "<*character string*>"	The camera model. Default = ""

Token/Value	Description
camera_motion_detect = "<*Boolean*>"	Determines if motion detection data is captured from RTSP enabled IP cameras that support motion detection. If selected for cameras that do not capture motion detection data or otherwise are not supported by the Buffalo Surveillance Server, no motion detection data is preserved. Default = true
camera_name = "<*character string*>"	Required. The name of the camera. Default = ""
camera_password = "<*character string*>"	The password for the account needed to access the camera. Works in conjunction with camera_username. Default = ""
camera_pool = "<*character string*>"	A camera pool is a user defined virtual grouping of cameras to search video from specified cameras. For example, a camera pool called "Doors" that includes all of the cameras that cover the doors of your establishment. When you need to see who's come or gone, select the "Doors" camera pool as a search criteria, and only video captured from cameras in the "Doors" camera pool are included. There is no limit to the number of camera pools your Buffalo Surveillance Server solution may have. Default = ""
camera_stream_over_tcp = "<*Boolean*>"	Causes the RTSP capture to stream data over a TCP connection rather than over a default HTTP connection. Default = false
camera_use_config = "<*Boolean*>"	System defined value.
camera_username = "<*character string*>"	The user name for the account needed to access the camera. Works in conjunction with camera_password. Default = “”

Token/Value	Description
camera_video_capture_url = "<*character string*>"	Required. The URL from which the selected camera can be viewed. Default = “”

Sample Recording Policy

If you were to export a policy, it would look similar to the following:

```
#
# Generated from 'Camera Policies' 12:00:55
#
#
# Start of object rule for policy_name 'test'
#
policy_name = "test"
[
 type                    = "tap"
 version                 = "1.0"
 active                  = false
 job_type                = move
 obj_type                = "surv_camera"
 dtu_type                = L0
 local_only              = false
 follow_links            = false
 process_directories     = false
 timestamp               = mtime
 backup_stub             = false
 backup_data             = false
 include_offline         = false
 dst_media_type          = Unspecified
 dst_media_speed         = Unspecified
 dst_volume_format       = Unspecified
 dst_Vault_name          = "*"
 dst_media_name          = "*"
 dst_volume_name         = "*"
 dst_storage_pool        = "*"
 dst_volume_pack         = ""
 dst_local_only          = false
 localize                = true
 start_time              = 00:00:00
 start_days              = mtwtfss
 stop_time               = R0000/00/00-00:00:00
 pre_proc_cmd            = ""
 post_proc_cmd           = ""
 error_log               = "%R/Logs/%P.err"
 summary                 = true
 complete                = false
 diag                    = false
 list_pn                 = "%R/Logs/%P.log"
 display_only            = false
 update_run_record       = true
 create_job_history      = false
 retry_time              = R0000/00/00-00:00:00
 any_user_retrieve       = false
 out_of_band             = true
 vcs                     = F500
 data_paths              = 1
 throttle                = 100
 system_info             = false
 act_log_enabled         = false
 act_log_pn              = "%R/Logs/%P.act"
 ext_metadata_plugin     = "EmdProcessNone"
 file_grouping_plugin    = "FgProcessNone"
 gen_video_components    = true
 gen_low_res_proxy       = true
 low_res_proxy_quality   = Medium
 save_low_res_proxy      = false
 save_low_res_proxy_dir_pn = ""
 gen_preview_image       = true
```

```
 preview_image_quality    = Medium
 save_preview_image       = false
 save_preview_image_dir_pn = ""
 ext_metadata             = ""
 camera_name              = "test"
 camera_manufacturer      = "4XEM"
 camera_model             = "DM38"
 camera_description       = "test"
 camera_cache_pn          = "C:\Documents and Settings\JohnDoe\Desktop\test"
 camera_video_capture_url = "rtsp://89.73.01.5/live.sdp"
 camera_clip_duration     = 1800
 camera_frame_width       = 480
 camera_frame_height      = 640
 camera_stream_over_tcp   = true
 camera_username          = ""
 camera_password          = ""
 camera_use_config        = false
 compress                 = false
 lock_Vault               = true
]

# end of object rule for policy_name 'test'
```

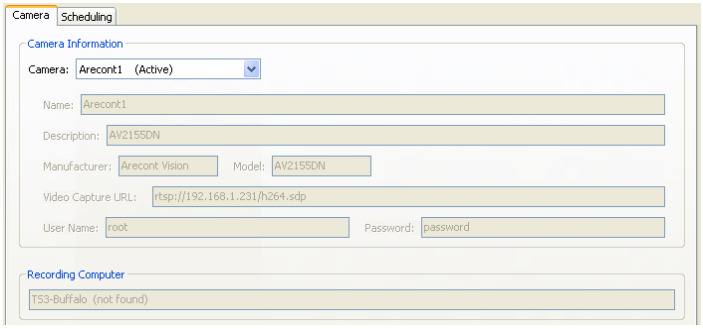
Camera Tab: Designate the Camera

This tab enables you to select or enter the target camera for your recording policy.This may be either an RTSP IP enabled camera, or one managed by a VMS system.

Video capture from VMS systems may not be available, depending on your hardware device and depending on your product license.

To be able to view and record live video feeds, you must ensure that RTSP is enabled on your IP camera. See your camera's documentation for details on enabling RTSP.

This topic assumes that you are using Standard Mode for Camera Policies. If you are using Advanced Mode 51, see Camera Tab - Advanced Mode 106.



The first field of this tab displays all configured RTSP and VMS-managed camera targets. If you want to add and configure a camera for use with multiple policies, see Add, Configure, and Delete Cameras 63.

- Select the camera to be used for this policy. The Camera Info fields are populated automatically with the information entered when the camera was initially configured..

Add Camera Information

- The camera options available depend on the Camera selected.

If you need to change the configuration of a configured camera, see Add, Configure, and Delete Cameras 63.

Field	What it does
Camera	This drop-down lists all available cameras. Once selected the fields below pre-populate.
Name	A user defined value used in the menus and configuration file, this is the name of the camera. The name entered is for identification purposes only. It is best to use a naming convention and a descriptive name.
Description	A user defined value used in the menus and configuration file, this is a description of the camera.

Additional Target Camera fields for RTSP IP enabled cameras:

Field	What it does
Manufacturer	The manufacturer of the camera. The Video Capture URL populates automatically.
Model	A user defined value, this is the camera's model number. Video Capture URL populates automatically.
Video Capture URL	The RTSP URL of the camera that enables the Buffalo Surveillance Server to capture video feeds. - The text box displays the IP address for the selected camera.

Field	What it does
User Name	If the camera requires a user name and password to be accessed, this is the username. This field works in conjunction with Password.
Password	If the camera requires a user name and password to be accessed, this is the password. This field works in conjunction with User Name.
Recording Computer	Displays the computer that captures a video feed from your camera.

Additional Target Camera fields for cameras managed by Milestone or OnSSI:

Field	What it does
Server Address	The host name or IP address of the image server from which you want to extract video.
User Name	The user name for a user who has rights to access the camera whose video you want to extract. This must be a "Basic User."
Password	If the camera requires a user name and password to be accessed, this is the password. This field works in conjunction with User Name.
Video Type	MJPEG stores video in the same format in which it was stored in the VMS, and takes the same amount of space. H.264 is a loss-less format that takes 30% to 70% less storage space.

▸ Click to save all policy settings and implement the policy.

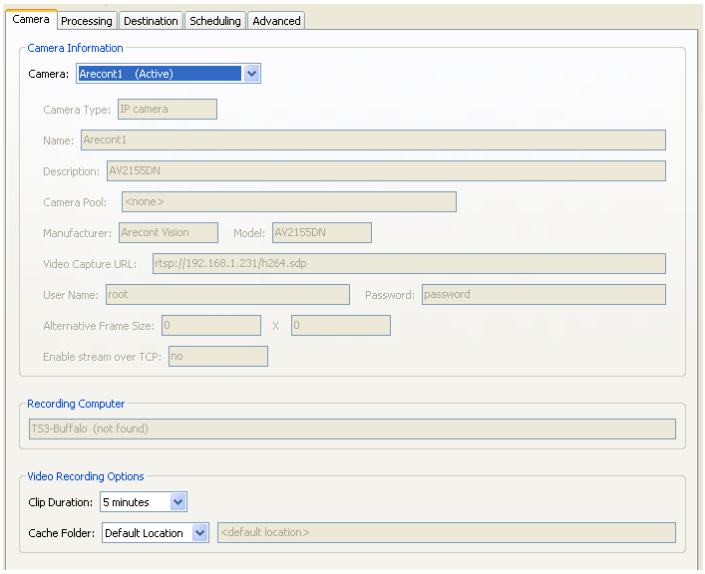
Camera Tab - Advanced Mode

This tab enables you to select or enter the target camera for your recording policy. This may be either an RTSP IP enabled camera, or one managed by a VMS system.

This topic assumes that you are using Camera Policies in Advanced Mode 51. If you are using the default, basic mode, see Camera Tab: Designate the Camera 104.

Video capture from VMS systems may not be available, depending on your hardware device and depending on your product license.

To be able to view and record live video feeds, you must ensure that RTSP is enabled on your IP camera. See your camera's documentation for details on enabling RTSP.



The first field of this tab displays all configured RTSP and VMS-managed camera targets. If you want to add and configure a camera for use with multiple policies, see Add, Configure, and Delete Cameras 63.

- Select the camera to be used for this recording policy. The Camera Info fields are populated automatically with the information entered when the camera was initially configured, and only the Video Recording options are configurable.

Add Camera Information

- The camera options available depend on the Camera selected.

If you need to change the configuration of an already configured camera, see Add, Configure, and Delete Cameras 63.

Field	What it does
Camera	This drop-down list lets you select a camera.

Field	What it does
	The Camera chosen determines the fields displayed in the Target Camera section below.
Name	A user defined value used in the menus and configuration file, this is the name of the camera. The name entered is for identification purposes only. It is best to use a naming convention and a descriptive name.
Description	A user defined value used in the menus and configuration file, this is a description of the camera.
Camera Pool	A camera pool is a user defined virtual grouping of cameras to search video from specified cameras. For example, a camera pool called "Doors" that includes all of the cameras that cover the doors of your establishment. When you need to see who's come or gone, select the "Doors" camera pool as a search criteria, and only video captured from cameras in the "Doors" camera pool are included. There is no limit to the number of camera pools your Buffalo Surveillance Server solution may have.

Additional Target Camera fields for RTSP IP enabled cameras:

Field	What it does
Manufacturer	The manufacturer of the camera. The Video Capture URL populates automatically.
Model	A user defined value, this is the camera's model number. Video Capture URL populates automatically.
Video Capture URL	The RTSP URL of the camera that enables the Buffalo Surveillance Server to capture video feeds. ▸ The text box displays the IP address for the selected camera.
User Name	If the camera requires a user name and password to be accessed, this is the username. This field works in conjunction with Password.
Password	If the camera requires a user name and password to be accessed, this is the password. This field works in conjunction with User Name.

Field	What it does
Alternative Frame Size	The height and width, in pixels, of video images. Use this field if you want to define a frame size that is different from the camera's default. The first field is for width; the second field is for height.
Enable stream over TCP	Causes the RTSP capture to stream data over a TCP connection rather than over a default HTTP connection.
Recording Computer	Displays the computer that captures a video feed from your camera.
Video Recording Options	Select the clip duration, and set the cache folder. More information below.

Additional Target Camera fields for cameras managed by Milestone or OnSSI:

Field	What it does
Server Address	The host name or IP address of the image server from which you want to extract video.
User Name	The user name for a user who has rights to access the camera whose video you want to extract. This must be a "Basic User."
Password	If the camera requires a user name and password to be accessed, this is the password. This field works in conjunction with User Name.
Video Type	MJPEG stores video in the same format in which it was stored in the VMS, and takes the same amount of space. H.264 is a loss-less format that takes 30% to 70% less storage space.

Set Video Recording Options

Note: Video Recording Option fields are available in Advanced Mode 51 only.

- Set the following options for existing and newly added cameras:

Field	What it does
Clip Duration	When you capture video feeds, the Buffalo Surveillance Server parses them into individual files. This field enables you to choose the size of these files and, therefore, the duration of individual videos. Shorter videos (smaller files) enable the Surveillance Video Manager[277] to retrieve files for review more quickly and causes your Buffalo Surveillance Server Information Repository to contain more files. Longer clips (larger files) enable your Buffalo Surveillance Server device to have fewer files. In either case, the amount of storage space used depends only on the amount of data that is captured, not the number of files.
Cache Folder	The cache folder is where incoming video streams are staged when they are first captured but not yet in the Information Repository. Each camera should have its own cache directory. ▸ Leave the setting Default Location or select At Pathname and enter the path.

▸ Click to save all policy settings and implement the policy.

Metadata Tab and Configuration

The Metadata Tab is only displayed if it has been configured as described below.

This section is intended only for advanced users. It covers MetadataExtensions.cfg, a text file you can create to add and configure an additional, optional **Metadata** tab in the Camera Policies application and optional extended metadata search fields in SVM. Extended metadata enable you to ingest custom metadata that you want associated with videos. Later, when you need to find and retrieve videos, you can search using the extended metadata that was ingested when the video was processed.

Extended metadata searching in the Surveillance Video Manager requires metadata that can be collected at ingest only if MetadataExtensions.cfg is configured correctly for Camera policies. In short, the metadata you ingest using Camera policies will be searchable using the Surveillance Video Manager. Therefore, metadata extensions for Camera policies and the Surveillance Video Manager are all covered here together.

The Metadata tab and metadata search options will appear in the Camera Policies application and the Surveillance Video Manager respectively only if there is a MetadataExtensions.cfg file in <install-dir>**\Config**.

The MetadataExtensions.cfg file must be on every computer on which a user would edit or modify the recording policy. If not, the metadata values could be lost.

When you create, configure, and implement a MetadataExtensions.cfg file, the Metadata tab will appear in Camera Policies. It will contain the Query blocks listed in the IngestMdExt block (see details below):

Sample String Label
This field can be left blank ("") or pre-populated with a value.
Sample Pathname Label
This field can be left blank ("") or pre-populated with a value.
Browse...
Sample Choice Label
Sample "Choice".
Sample Checkbox Label
Sample Spin Label
26

Metadata search options will be available in the Surveillance Video Manager to enable searches using metadata associated with already captured videos.

When you ingest metadata, special characters normally interpreted as wildcards (?, *, #, !, ~, ^, &, [ ], { }, \, ") are **not** interpreted as wildcards. When you search for metadata, however, wildcards are recognized. Consequently, if metadata that you ingest contains characters that are normally interpreted as wildcards, when you search for metadata you need to use the escape character (\) to denote that the wildcard is intended literally, not as a wildcard. For example, if you ingest 16*37 as metadata, and you then want to search for this expression, you would search using 16*13.

The search type options will be identical to those you defined in the ModMdExt block (see details below).

Create a MetadataExtensions.cfg

You can create MetadataExtensions.cfg using any text editor. Once created, it needs to be added to the following path: <install-dir>**\Config**.

MetadataExtensions.cfg is block structured text file. At the end of this section, you will find a sample MetadataExtensions.cfg. You can implement the file as is (at the path noted above) to see how it works or modify the file to meet your own criteria and then implement it. MetadataExtensions.cfg comprises three Blocks (IngestMdExt, SearchMdExt, and ModMdExt) which comprise one or more Query blocks each.

Pay particular attention to braces [ ]; there needs to be an opening brace after "IngestMdExt" and a closing brace after its last Query block; an opening brace after "SearchMdExt" and a closing brace after its last Query block; and an opening brace after "ModMdExt" and a closing brace after its last Query block.

Query block statements describe the controls that will appear on the application. These can include any number of string fields, check boxes, spin controls, pathname fields, and choice controls. Each Block can have any number of Query blocks. Its best to ensure that the IngestMdExt block and SearchMdExt contain the same Query blocks since the Buffalo Surveillance Server will search for only ingested metadata. However, if you prefer, the Query blocks contained in SearchMdExt can be limited to a subset of those you have in IngestMdExt. In this case, you will be able to search only based on the Query blocks listed in SearchMdExt.

If a Query block contains an error, the entire metadata extension block (IngestMdExt or SearchMdExt) will be ignored.

Metadata Extension Block Structure

The following example is only for the sake of illustration. Note that tokens can not be used in Query blocks indiscriminately. Each Query block supports only specific tokens. See **Valid Token/Values for Query Blocks** below for details.

```
<block identifier> #  This identifies the beginning of the Block.
[ # This is the opening brace for the Block.

 Query
 [
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
 ]

 Query
 [
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
 ]
] # This is the closing brace for the Block.
```

Blocks

The following are the Blocks used in MetadataExtensions.cfg.

Block Identifier	Description
IngestMdExt	Identifies the beginning of the metadata extensions block for Buffalo Surveillance Server ingesting and capturing applications. May not contain a SearchMdExt block or ModMdExt block. Required.
SearchMdExt	Identifies the beginning of the metadata extensions block for Buffalo Surveillance Server search and retrieve applications. It may not contain an IngestMdExt block or ModMdExt block. Required.
ModMdExt	Identifies the beginning of the "edit metadata" metadata extension block for Buffalo Surveillance Server search and retrieve applications. May not contain an IngestMdExt block or SearchMdExt block. Required.
Query	Identifies the beginning of a Query block contained within a metadata extensions block. Required. As illustrated in the examples below, Query blocks must be contained within metadata extension blocks (SearchMdExt and IngestMdExt).

Valid Token/Values for Query Blocks

The tokens in the table below can be used only in Query blocks. Although the IngestMdExt block, SearchMdExt block, and ModMdExt block use the same types of Query blocks, each must have its own individual Query blocks.

It is best to avoid using characters that the Buffalo Surveillance Server interprets as wildcards or as otherwise special. If you need to use a character literally that the Buffalo Surveillance Server uses as a wildcard, the character must be preceded by an escape character (\ ).

For example, *This is an example using escape characters in a statement with a wildcard*.

The following are Buffalo Surveillance Server wildcards and special characters:
?, *****, **#**, **!**, **~**, **^**, **&**, **[ ]**, **{ }**, ****, **"**.

See the Advanced Wildcard Functionality section for details about wildcards.

Query block Type	Valid Token/Values	Description
Checkbox	Name = <*character string*>	The metadata item's name. Required Default = ""
	Type=Checkbox	The Query type.
	Label = <*character string*>	The label for the control as it will appear in the application. Default = ""
	DefaultValue = <*Boolean*>	The value that will be loaded into the control by default. Valid values **=** true | false Defaults = true (checked)
	Description = <*character string*>	The tooltip for the control. Default = ""
Choice	Name = <*character string*>	The metadata item's name. Required Default = ""
	Type=Choice	The Query type.
	Label = <*character string*>	The label for the control as it will appear in the application.

Query block Type	Valid Token/Values	Description
		Default = ""
	DefaultValue = <*number*>	The value that will be loaded into the control by default. Valid values = the number of the entry in the pull-down list Default = the first choice listed. If the DefaultValue for a Choice block is greater than the number of Choices entered, the entire MetadataExtensions block will be ignored.
	Description = <*character string*>	The tooltip for the control. Default = ""
	Choice = <*character string*>	A choice statement that can be selected. Must have at least one Choice. Can be reused as many times as needed.
Pathname	Name = <*character string*>	The metadata item's name. Required Default = ""
	Type=Pathname	The Query type.
	Label = <*character string*>	The label for the control as it will appear in the application. Default = ""
	DefaultValue = <*character string*>	The value that will be loaded into the control by default. Valid value= a string Default = ""
	BlankValueOk = <*Boolean*>	Indicates whether the value may be left blank. Valid for String and Pathname only.

Query block Type	Valid Token/Values	Description
		Valid values = true | false. Default = true
	Description = <*character string*>	The tooltip for the control. Default = ""
Spin	Name = <*character string*>	The metadata item's name. Required Default = ""
	Type = Spin	The Query type.
	Label = <*character string*>	The label for the control as it will appear in the application. Default = ""
	DefaultValue = <*number*>	The value that will be loaded into the control by default. Valid values = a number between the LowerLimit and UpperLimit Default = the lower limit If the DefaultValue for a Spin block is not between the LowerLimit and UpperLimit, the entire MetadataExtensions block will be ignored.
	Description = <*character string*>	The tooltip for the control. Default = ""
	LowerLimit = <*number*>	The lower limit for the spin control. Default = 0
	UpperLimit = <*number*>	The upper limit for the spin control. Valid only for Spin. Default = lower limit + 100
String	Name = <*character string*>	The metadata item's name.

Query block Type	Valid Token/Values	Description
		Required Default = ""
	Type = String	The Query type.
	Label = <*character string*>	The label for the control as it will appear in the application. Default = ""
	DefaultValue = <*character string*>	The value that will be loaded into the control default. Valid values = a string Defaults = ""
	BlankValueOk = <*Boolean*>	Indicates whether the value may be left blank. Valid for String and Pathname only. Valid values = true | false. Default = true
	Description = <*character string*>	The tooltip for the control. Default = ""

Sample "Generic" MetadataExtensions.cfg

```
# This is a sample of an MetadataExtensions.cfg file.
#
IngestMdExt # Required: This identifies the beginning of the metadata extension
block for Target & Process.

[  # This is the opening brace for the IngestMdExt block.

 Query
 [
        Name          = Name1
        Type          = String
        Label         = Sample String Label
        DefaultValue  = This field can be left blank (\"\") or pre-populated with
a value.
        BlankValueOk  = false
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name2
        Type          = Pathname
        Label         = Sample Pathname Label
        DefaultValue  = This field can be left blank (\"\") or pre-populated with
a value.
        BlankValueOk  = false
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name3
        Type          = Choice
        Label         = Sample Choice Label
        DefaultValue  = 2
        Description   = This is a sample of the \"Description\" field.
        Choice        = Sample \"Choice\".
        Choice        = Sample \"Choice\".
        Choice        = Sample \"Choice\".
 ]

 Query
 [
        Name          = Name4
        Type          = Checkbox
        Label         = Sample Checkbox Label
        DefaultValue  = true
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name5
        Type          = Spin
        Label         = Sample Spin Label
        DefaultValue  = 26
        Description   = This is a sample of the \"Description\" field.
        LowerLimit    = 0
```

```
        UpperLimit    = 100
 ]

] # This is the closing brace for the IngestMdExt block.

SearchMdExt # Required: This identifies the beginning of the metadata extension
block.

[  # This is the opening brace for the SearchMdExt block.

 Query
 [
        Name          = Name1
        Type          = String
        Label         = Sample String Label
        DefaultValue  = This field can be left blank (\"\") or pre-populated with
a value.
        BlankValueOk  = false
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name2
        Type          = Pathname
        Label         = Sample Pathname Label
        DefaultValue  = This field can be left blank (\"\") or pre-populated with
a value.
        BlankValueOk  = false
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name3
        Type          = Choice
        Label         = Sample Choice Label
        DefaultValue  = 2
        Description   = This is a sample of the \"Description\" field.
        Choice        = Sample \"Choice\".
        Choice        = Sample \"Choice\".
        Choice        = Sample \"Choice\".
 ]

 Query
 [
        Name          = Name4
        Type          = Checkbox
        Label         = Sample Checkbox Label
        DefaultValue  = true
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name5
        Type          = Spin
        Label         = Sample Spin Label
        DefaultValue  = 26
        Description   = This is a sample of the \"Description\" field.
        LowerLimit    = 0
```

```
        UpperLimit    = 100
 ]

] # This is the closing brace for the SearchMdExt block.

ModMdExt # Required: This identifies the beginning of the metadata extension block
for Search & Retrieve.

[  # This is the opening brace for the ModMdExt block.

 Query
 [
        Name          = Name1
        Type          = String
        Label         = Sample String Label
        DefaultValue  = This field can be left blank (\"\") or pre-populated with
a value
        BlankValueOk  = false
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name2
        Type          = Pathname
        Label         = Sample Pathname Label
        DefaultValue  = This field can be left blank (\"\") or pre-populated with
a value
        BlankValueOk  = false
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name3
        Type          = Choice
        Label         = Sample Choice Label
        DefaultValue  = 2
        BlankValueOk  = true
        Description   = This is a sample of the \"Description\" field.
        Choice        = Sample \"Choice\".
        Choice        = Sample \"Choice\".
        Choice        = Sample \"Choice\".
 ]

 Query
 [
        Name          = Name4
        Type          = Checkbox
        Label         = Sample Checkbox Label
        DefaultValue  = true
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name5
        Type          = Spin
        Label         = Sample Spin Label
        DefaultValue  = 26
        Description   = This is a sample of the \"Description\" field.
```

```
        LowerLimit    = 0
        UpperLimit    = 100
  ]
] # This is the closing brace for the ModMdExt block.
```

Processing Tab: Set Processing Options for Recording or Capture

Note: This tab is only displayed if you are using Advanced Mode 51.

The Processing Tab enables you to set video and file processing options for your recording policy.

Process video components, Generate low resolution proxy, and Generate preview image

This feature enables video files to be captured so that they are viewable by the Buffalo Surveillance Server. It also enables you to choose to have Buffalo Surveillance Server generate low resolution companion files and preview images when video data is being captured.

Because of their relatively small sizes, low resolution companion files and preview images enable you to search for needed video files and clips within files without having to first wait for the retrieval of large, original video files.

The Buffalo Surveillance Server is unable to generate thumbnails and low resolution companion files.

Process Video Components is selected by default and cannot be disabled.

- To generate a low resolution companion files, select **Generate low resolution proxy**. If you do not select this option, the proxies will not create. However, you can always view the regular video files contained in the Information Repository.
- Use the **Low resolution proxy quality** field, to select a resolution setting for the proxy video/companion file to generate. A lower setting produces a smaller file.

Setting	Resolution and Audio Compression
High	• same frame size as original • high video quality • audio is compressed to QDesign 44kHz
Medium	• 320x240 frame size

Setting	Resolution and Audio Compression
	• medium video quality • audio is compressed to QDesign 44kHz
Low	• 320x240 frame size • low video quality • audio is compressed to QDesign 14 kHz

- To save an additional copy of the low resolution file, select **Save copy of low resolution proxy** and type a path after **Location**.
- To generate a preview image, select **Generate preview image**. If you do not select this option, preview images will not create.
- Use the **Preview image quality** field, to select a resolution setting for the preview image to generate. A lower setting produces a smaller file.

Setting	Resolution
High	original size
Medium	320x240
Low	100x75

- To save an additional copy of the preview image file to a location outside of the Information Repository, select **Save copy of preview image** and type a path after **Location**.

Override original file permissions to allow any user to retrieve

The Buffalo Surveillance Server adheres to the level of rights and access control that is set for the OS from which files are being ingested. Buffalo Surveillance Server adheres to the level of rights and access control that is set for the camera from which files are being captured or extracted. Typically, only the OS "owner" and author of the files or a system administrator with Administrative or Root level access privileges will be able to view, open, and retrieve their own files in the Information Repository.

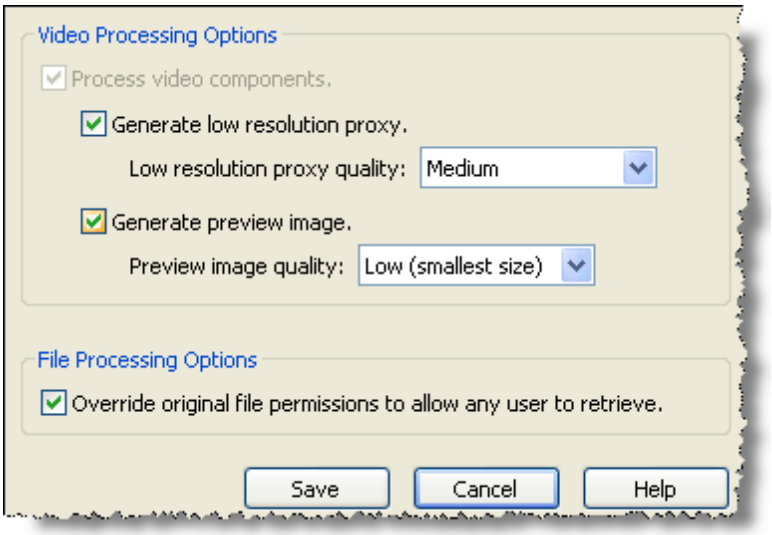
- To grant permission to any users who might want to retrieve files, check **Override original file permissions to allow any user to retrieve.**

This feature negates all protection associated with your files; anyone in your network environment using the Buffalo Surveillance Server will be able to access your stored files when this feature is activated.

User Preferences: Set Default User Preferences

The User Preferences window enables you to set defaults for the application. The fields are identical to those on the Processing tab; the choices you make in this dialog become the defaults each time you use the Processing Tab. See the Processing tab 121 for more details about the fields.

Note: You must be in Advanced Mode 51 to set default User Preferences.

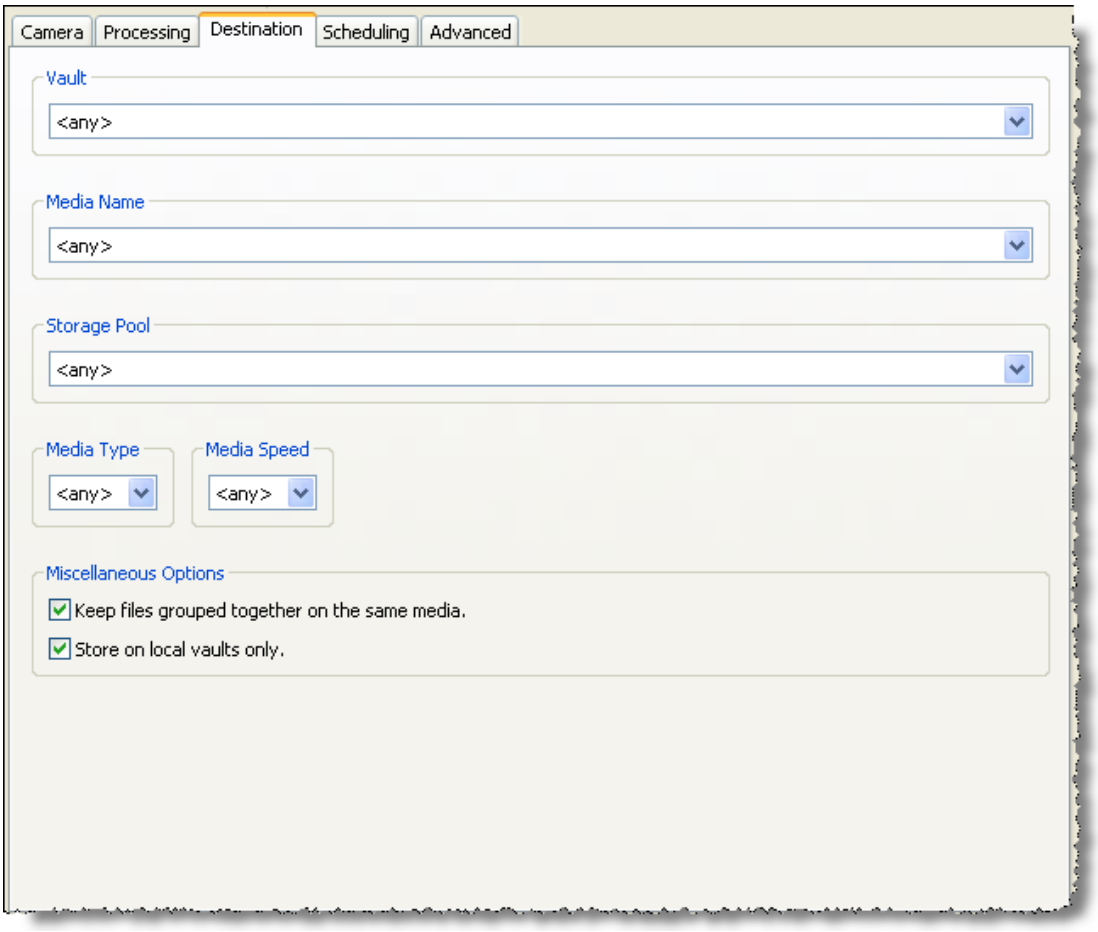


- To set defaults, select **Tools** > **User Preferences** from the menu at the top of the respective window.

Destination Tab: Define Capture Destinations

Note: This tab is only displayed if you are using Advanced Mode 51.

The Destination tab enables you to determine the Vaults, media, and/or storage pools where your video files are recorded or captured. Read this section before you set Vault, Media Name, Storage Pool, Media Type, and Media Speed parameters.



If you leave any field set to the default (**<any>**), the Buffalo Surveillance Server will use all of the parameters for the given field in the Information Repository. For example, if you leave Vault set to <any>, the Buffalo Surveillance Server will use all of the Vaults in your Information Repository, choosing the one with the most free space that is most readily available for any given job.

If you wish to create a new name for any parameter, you may not use the following names already used by the Information Repository: unnamed, any, new entry.

Only <any>, <unnamed>, <new entry> and/or the names of Vaults, storage pools, media, media types, and media speeds that are already implemented in the Information Repository appear in the pull-down lists unless you have added new parameters. If you plan to add new Vaults, media, or storage pools to the Information Repository at a later time and know the name(s) that you will assign to these resources, you can add the name(s) of these resources manually before actually implementing them. They will be listed beneath <any> in the given field. **However, to minimize the risk of error, it is best to choose only media that appears in the pull-down list**. There are several options for doing this:

- Leave all of the fields set to the default (<any>) and let Buffalo Surveillance Server take care of everything.

The Buffalo Surveillance Server will choose the most accessible Vault and media with the most free space.

- Select a parameter from the field that best meets the data's requirements, and let Buffalo Surveillance Server take care of the rest.

  If, for example, you select a Media Speed of S8, the Buffalo Surveillance Server will write only to media that runs at the speed associated with S8. Likewise, if you select only a Storage Pool or Media Name, the Buffalo Surveillance Server will send the files to only the storage pool or media that you select. Similarly, if you select only a Vault, the Buffalo Surveillance Server will choose the best unit of media within the Vault and the data will not have Storage Pool metadata. In general, the Buffalo Surveillance Server will use the most readily available Vault and/or media with the most available free space.

- Select a parameter from the field that best meets the data's requirements, and then select available parameters from the remaining fields.

  When you select a parameter from Vault, Media Name, or Storage Pool, the Buffalo Surveillance Server will limit the options available in the remaining fields to only those commensurate with the parameter you have selected.

  You can assign several units of media to a single storage pool. (See Prepare Media, Storage Pool 237 for more information about Storage Pools.) To return the tab to a state where you can choose any parameter from any field, select <any> in the Vault field.

- Create a new entry or new entries for Vault, Media Name, and/or Storage Pool.

  - Use the pull-down control for Vault, Media Name, and/or Storage Pool, and then select <new entry>. A window will appear into which you can enter the new name for the field that you have select. Enter the new Vault, Media Name, or Storage Pool, and then click **[OK]**. The new entry will appear in field's pull-down list.

    This method is recommended only for special circumstances. If you try to run a job with a Vault or media that is not actually running in the Information Repository, the job will fail.

<any> will divide the names of Vaults, media, and storage pools already implemented from the names that you have added for Vaults, media, and storage pools that have not yet been implemented. In other words, the names above **<any>** represent Vaults, media, or storage pools actually running in your Information Repository. The names below the divider are the ones that you have entered that do not yet have hardware implemented in the Information Repository. These will not be saved if they are not selected when you save the policy.

Limitations to adding a new name for Vault, Media Name, or Storage Pool:

- If you enter a new name for a Vault, Media Name and Storage Pool options will be limited to <any> and <new entry>.
- New entries in Media Name or Storage Pool do not limit options in the remaining fields.
- If you add a wildcard (for example, Ac*), the wildcard will appear beneath <any> even thought there may be Vaults in the Information Repository the wildcard comprises.

When entering pathnames or pathname searching patterns, only the forward slash (/) may be used as a pathname delimiter. If you use a backslash (\), as is customary on some platforms, you may get unexpected results.

Wildcard Operators for Vault, Media Name, and Storage Pool

The Buffalo Surveillance Server supports the following wildcards with case sensitive alpha characters in the **Vault**, **Media Name**, and **Storage Pool** fields:

***** for zero or more of any character

? for any single character

*** Substitutes for zero or more characters.** Can be used in truncation and for multiple characters. If used in a pathname, it cannot replace a forward slash (/). Use ***** for all possible alternative spellings and an unlimited number of characters within a name.

For example, **h*ophilia** substitutes for all names containing **h**+**<any character or number of characters>**+**ophilia**, such as haemophilia, hemophilia, or h.123ophelia; **behavi*r** substitutes for all names containing **behavi**+**<any character or number of characters>**+**r**, such as behaviour, behavior, or behavi123.zr; **patent*** substitutes for only all names containing **patent**+**<a character or any number of characters>**, such as patents, patentable, patented, patent123, and so on; **patent*.jpg** substitutes for only all names containing **patent**+**<a character or any number of characters>**+**.jpg**, such as patents.jpg, patentable.jpg, patented.jpg, patent123.jpg, etc; ***.jpg** substitutes for only all names containing **<any character or set of characters>**+**.jpg**.

? Substitutes for any single character and can be combined to denote multiple characters. If used in a pathname, it cannot replace a forward slash (/). Use **?** for specific alternative spellings. **?** substitutes for a single character; **??** substitutes for two characters; **???** substitutes for three characters, and so on. Only names with characters equal to the number of ? used are processed. For example, **cell?** substitutes for all names containing **cell** +**<one additional character>**.

For example, cells and cello but not cell. You can use ? within or at the end of a phrase. For example, **.xl?** substitutes for only names containing **.xl**+**<a third character>**, such as .xls, . xlr, and so on; **wom?n** substitutes for only names containing **wom**+**<a third character>**+**n**, such as woman or women; **carbon fib??** substitutes for only names containing **carbon fib**+ **<two characters>**, such as carbon fiber or carbon fibre.

In the **Vault**, **Media Name**, or **Storage Pool** fields, substitute the appropriate wildcard character for any letter or letters. For example, lets say you have four Vaults:

- Accounting
- Administrative
- Development
- Sarbanes-Oxley

And, you want to migrate data only to Vaults named "Accounting" and "Actuarial". In the Vault field, you would enter *Ac**, and data will be stored only to Vaults beginning with *Ac*, regardless of what comes after *c*. The same type of scenario would pertain if you wanted to use wildcards in the Media Name field.

When you use a wildcard in the Vault field, only media and storage pools associated with the selected Vault are displayed in the Media Name and Storage Pool fields. For example, if you enter *j** in the Vault field, only Media and Storage Pools in Vaults beginning with *j* will appear in the Media Name and Storage Pool fields. The functionality is similar for Media Name. For example, if you enter *Ni**, only storage pools beginning with *Ni* will be displayed in the Storage Pool field.

See Advanced Wildcard Functionality for a complete list of and more complete information about wildcards.

Destination Tab Fields

Vault

Vaults are the basic units of storage in your Information Repository.

- Click the pull-down control arrow and, from the list that appears, select a Vault; or, select **<new entry>** to add a new Vault name. When you select a Vault, the Buffalo Surveillance Server will populate the Media Name pull-down menu with the media that it finds on the given Vault.

If you enter a new name for a Vault, the Media Name and Storage Pool options will be limited to <any> or <unnamed> and <new entry>.

Media Name

Media Name refers to the names of individual units of media in the Vaults of your Information Repository.

- Click the pull-down control arrow and, from the list that appears, select the media; or, select **<new entry>** to add a new media name. The Buffalo Surveillance Server will then automatically look for the Storage Pools that comprise the media. If the Buffalo Surveillance Server cannot find storage pools that comprise the media that you have selected, the Storage Pool field will display <any>.

Storage Pool

Storage Pools are groupings of media utilized for a particular purpose. A typical example of storage pooling is the utilization of several units of media for a single policy. For example, if you want to have the "Monday night backup" write to several units of media, you would use a "Monday night backup" storage pool and assign to it every unit of media that you want to use for that purpose. (See **Prepare Media, Storage Pool** for information about creating storage pools using Vault Admin.)

- Click the pull-down control arrow and, from the list that appears, select a storage pool; or, select **<new entry>** to add a new storage pool name.

Media Type

You can determine the types of media your policy will use by specifying a media type. For example, if "Hdisk" is an option and you select it, only Hdisk media will be utilized. This setting is useful for processing data of lower importance or less rigorous recovery time objectives.

You can set either Media Type or Media Speed but not both.

Although only Hdisk media will be used, the names displayed in the other fields will not change.

- Click the pull-down control arrow under the **Media Type** label, and select the media type. Only the media types that are available for the parameters you have chosen in the Vault, Media Name, or Storage Pool fields will be displayed. If no Vault, media, or storage pool is chosen, only the media types from media available within the Information Repository will be displayed.

Media Speed

Storage technologies supported by the Buffalo Surveillance Server are categorized by their performance. The Media Speed setting is useful for processing data of lower importance or less rigorous recovery time objectives. Media Speed enables you to specify what media will be used based on media performance. For example, if "S4" is an option and you select it, only S4 media will be utilized.

Although only S4 media will be used, the names displayed in the other fields will not change.

Hard disk is considered a high performance media and is assigned a high rating (S8). Slower tape technologies are lower performance and are assigned a lower rating (S0). **You can set either Media Type or Media Speed but not both**.

- Click the pull-down control arrow under the **Media Speed** label, and then select a performance rating. The Buffalo Surveillance Server will display only the media speeds that are available for the parameters you have chosen in the Vault, Media Name, or Storage Pool fields. If no Vault, media, or storage pool is chosen, only the speeds from media available within the Information Repository will be displayed.

Miscellaneous Options

- Check **Keep files grouped together on the same media** to specify that the Buffalo Surveillance Server continue to write files to the same media. If this option is not selected, targeted files will be stored across the Information Repository on whatever media has the most space and/or best availability.
- Check **Store on local vaults only** to specify that the files be stored on the host machine on which the policy resides.

Scheduling Tab: Define When Video Will Be Recorded

Use the Scheduling tab to define when videos will be recorded from your RTSP enabled IP camera or captured from your VMS-managed camera. You can record or capture videos always or on a daily basis. As soon as you save the given policy, the schedule you created is implemented.

When Do You Want to Record Video?

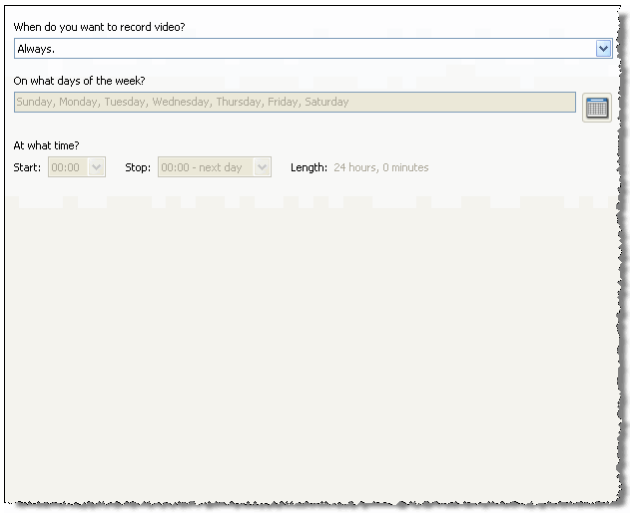
The option that you choose defines the times when video will be recorded or captured and controls which options will be active in the rest of the scheduling tab. **When do you want to record video?** contains the following options:

- **Option 1: Always**
- **Option 2: On selected days each week**

- Select an option from the **When do you want to record video** pull-down list.

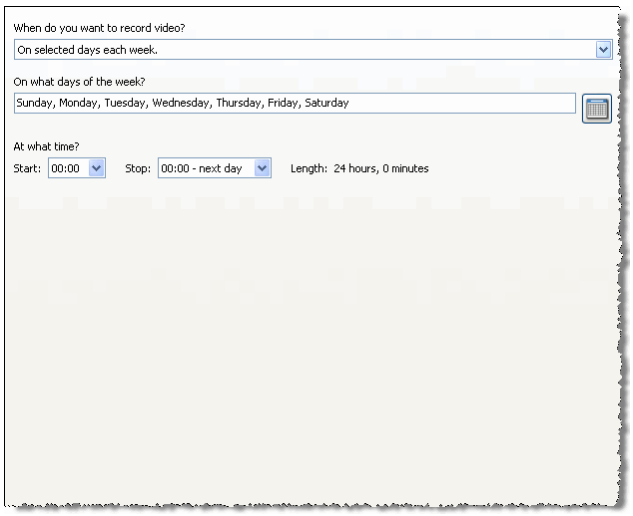
- Option 1: Always

This option enables you to record or capture video 24 hours a day, seven days a week for as long as the policy is active. To stop a policy that has been set to record video always, you must deactivate, change, or delete the policy. When you select this option, the rest of the Scheduling tab fields are inactive, and it looks as follows:


When do you want to record video?
Always.
On what days of the week?
Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday
At what time?
Start: 00:00
Stop: 00:00 - next day
Length: 24 hours, 0 minutes

- Option 2: On selected days each week

This option enables you to schedule video recording or capture on particular days at specific times. When you select this option, the scheduling tab looks as follows:


When do you want to record video?
On selected days each week.
On what days of the week?
Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday
At what time?
Start: 00:00
Stop: 00:00 - next day
Length: 24 hours, 0 minutes

- Adjacent to the **On what days of the week** text box, click to set the days of the week on which you want to record or capture video. The Days 386 window appears. Select the days you want video to be recorded or captured.

- Adjacent to the **Start time** pull-down list, click the down arrow and select a start time.

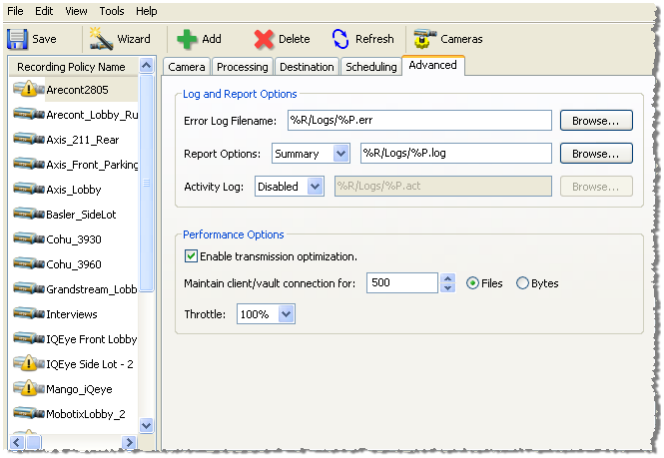
- Adjacent to the **Stop** pull-down list, click the down arrow and select a stop time.

Once you have selected start and stop times, the **Length** field displays the total number of hours video will be recorded or captured per day.

Advanced Tab: Set Advanced Capturing Options

Note: This tab is only displayed if you are using Advanced Mode 51.

In the Advanced tab set log, report, and performance options.



- Select the options below to configure the policy.

Error-Log Filename

The Buffalo Surveillance Server creates an error log file whenever errors are encountered during a job. Use it to assist you when troubleshooting problems that arise in the job. The Error Log Filename text box can include literal file names or a combination of file name field variables (see File Name Field Variables below) that will generate filenames for logs.

- In the **Error Log Filename** text box, leave the default variables in place; or, type in the file name that you want to use, including an extension; or, type in a variable name using **Filename Field Variables** (below).

Or,

- Use **[< Browse]** to define a new location and type in the file name that you want to use, including an extension.

Filename Field Variables

The file path can include a literal file name or a combination of variables that will generate filenames for reports. Variables make it much easier to distinguish between reports and to find particular reports.

For example, if you enter a path with a literal file name, C:/Program Files/BUFFALO/Logs/Job_Report.log, the system will generate the report destination folder "Logs" (if it does not already exist) and a report named "Job_Report.log". Similarly, if you enter a literal file name, say "DataErrors.log", a log named DataErrors.log will be generated.

On the other hand, if you enter a path with variables (separated by an underscore) for the file name, say %R/Logs/%P_from_%H_on_%D_at_%T, the system will generate the report destination folder "Logs" and a report named, "Monday Night Set_from_Rex<host name>_on_<date>_at_<time>" — where policy name, host name, date, and time are populated with the actual details from your Information Repository and job.

Following are the variables you can enter in the order you prefer. When using multiple variables, separate them from each other with an underscore (_).

Variable	Description
%P or %Pn	Policy Name
%H or %Hn	Host Name
%D	Date (yyyy:mm:dd)
%Dy	Year
%Dm	Month
%Dd	Day
%T	Time (hh:mm)
%Th	Hour
%Tm	Minute
%Ts	Second
%R or %Rn	Root Pathname. Valid only at the beginning of a string.

Report Options

The Buffalo Surveillance Server creates one of three report files when a job runs:

Type of Report	Contents
Summary	A header and summary report
Complete	Same as Summary but lists all files effected
Diagnostic	Complete but adds diagnostic-relevant information

- Click the pull-down menu to select the report option that you want. Use the **Summary** or **Complete** options on a normal basis and switch to **Diagnostics** if you run into problems.
- In the **Report Options** text box, leave the default variables in place, enter in the file name that you want to use, including an extension, or enter a variable name using **File Name Field Variables** (below).

Or,

- If you want to **overwrite an already existing log file**, use **[< Browse]** to find the file.

Filename Field Variables

The file path can include a literal file name or a combination of variables that will generate filenames for reports. Variables make it much easier to distinguish between reports and to find particular reports.

For example, if you enter a path with a literal file name, C:/Program Files/BUFFALO/Logs/Job_Report.log, the system will generate the report destination folder "Logs" (if it does not already exist) and a report named "Job_Report.log". Similarly, if you enter a literal file name, say "DataErrors.log", a log named DataErrors.log will be generated.

On the other hand, if you enter a path with variables (separated by an underscore) for the file name, say %R/Logs/%P_from_%H_on_%D_at_%T, the system will generate the report destination folder "Logs" and a report named, "Monday Night Set_from_Rex<host name>_on_<date>_at_<time>" — where policy name, host name, date, and time are populated with the actual details from your Information Repository and job.

Following are the variables you can enter in the order you prefer. When using multiple variables, separate them from each other with an underscore (_).

Variable	Description
%P or %Pn	Policy Name
%H or %Hn	Host Name
%D	Date (yyyy:mm:dd)
%Dy	Year
%Dm	Month
%Dd	Day
%T	Time (hh:mm)
%Th	Hour
%Tm	Minute
%Ts	Second
%R or %Rn	Root Pathname. Valid only at the beginning of a string.

Activity Logging

Activity logs provide logistical information about jobs. Enable activity logging when you want the Buffalo Surveillance Server to create activity logs. Refer to the logs after a job runs; they are stored in a specified location.

- Set Activity Logging to **enabled**. The activity log text box becomes active.
- In the activity log text box, leave the default variables in place; or, type in the file name that you want to use, including an extension; or, type in a variable name using **Filename Field Variables** (below).

Or,

- Use **Browse** to define a new location and type in the file name.

Filename Field Variables

The file path can include a literal file name or a combination of variables that will generate filenames for reports. Variables make it much easier to distinguish between reports and to find particular reports.

For example, if you enter a path with a literal file name, C:/Program Files/BUFFALO/Logs/Job_Report.log, the system will generate the report destination folder "Logs" (if it does not already exist) and a report named "Job_Report.log". Similarly, if you enter a literal file name, say "DataErrors.log", a log named DataErrors.log will be generated.

On the other hand, if you enter a path with variables (separated by an underscore) for the file name, say %R/Logs/%P_from_%H_on_%D_at_%T, the system will generate the report destination folder "Logs" and a report named, "Monday Night Set_from_Rex<host name>_on_<date>_at_<time>" — where policy name, host name, date, and time are populated with the actual details from your Information Repository and job.

Following are the variables you can enter in the order you prefer. When using multiple variables, separate them from each other with an underscore (_).

Variable	Description
%P or %Pn	Policy Name
%H or %Hn	Host Name
%D	Date (yyyy:mm:dd)
%Dy	Year
%Dm	Month
%Dd	Day
%T	Time (hh:mm)
%Th	Hour
%Tm	Minute
%Ts	Second
%R or %Rn	Root Pathname. Valid only at the beginning of a string.

Enable Transmission Optimization

This feature enables the client to constantly monitor its processes and select the network transmission protocol that best suits the files being processed. To get up to a 20% increase in performance, it is generally best to leave this option checked. However, depending on your particular network configuration, you may find that you can get better performance by un-checking this option. If your Information Repository seems to be slower than you would expect, run a few timed tests to see which setting will work best for your Information Repository.

- To enable this feature, check **Enable transmission optimization**.

Maintain Client/Vault Connection

Vault connection sharing determines how many files are sent from the source Vault to the destination Vault in a single connection. The higher the number of files or bytes transferred, the longer the connection between the source and destination Vault will be maintained. Access to a particular Vault resource (such as one drive of a multi-drive storage device) used by a process on one client will be restricted and inaccessible to other clients in the network for the duration of the connection.

To understand how this setting can affect a configuration, imagine an environment where a single Vault with a single tape drive is used to service several Buffalo Surveillance Server clients. When a client is configured with connection sharing set to 250 files, and several other clients are configured to start jobs at the same time, no client can connect until the first client is finished. Each client's connection to the server will lock out all other connections; all other clients will have to wait before processing files.

- To set the connection sharing value, enter a value number in the **Maintain Client/Vault Connection for** text box.
- Click the **Files** radio button or **Bytes** radio button depending on which you prefer. If you click Files, connection sharing will proceed based on the number of files transmitted; if you click bytes, based on the number of bytes.

Throttle

Throttling controls the speed at which files are sent to the Vault. Lower numbers reduce the bandwidth. Throttle values range from 1% to 100% of total available bandwidth.

The Buffalo Surveillance Server is designed to operate at the maximum performance of its host computer, the network environment, and the storage resources available. Sometimes, during normal working hours, running a job at peak performance will interfere with other network operations.

- To adjust throttling, click the **Throttle** pull-down menu, and select the percentage of maximum performance at which you want to operate the client on its host computer.

View Live Video Feeds: Live Viewer

In the Buffalo Surveillance Server Live Viewer application, view live video feeds directly from RTSP enabled IP cameras.

Before seeing live feeds, cameras must be configured in the Camera Policies application as part of your Information Repository. To view live feeds in the Live Viewer, the Live View URL check box must be selected and the IP address must be entered in the first field of the Video Capture or Live View URL when adding the camera configuration.

To be able to view and record live video feeds, you must ensure that RTSP is enabled on your IP camera. See your camera's documentation for details on enabling RTSP.

Most cameras can manage a single live feed while video streams are being captured. More than a single live feed on any given camera affects performance.

The Live Viewer window is divided into two main areas: the Control panel on the right side contains controls to select the camera feeds to view and the layout of the viewer window (the number of rows and columns of camera views) displayed at one time. There are also controls to access the pan, tilt, zoom, and focus of cameras (if cameras support it, and if the control is enabled when configuring the Camera Policies application).

The Live Viewer main menu bar includes a **File** menu to close the application, a **View** menu to access commands for save, rename and delete layouts, a **Tools** menu for User Preferences, and a **Help** menu.

The view frames in the left side of the window display the live feeds from the cameras selected. By default, the Live Viewer is set to display feeds from four cameras, arranged in two rows of two across. Change that default layout by using the **View** drop down list at the top of the right-hand control panel.

In the Live Viewer, each camera view frame includes a **Title** bar. Right-click on the camera **Title** bar to display a right-click menu with the following menu items:

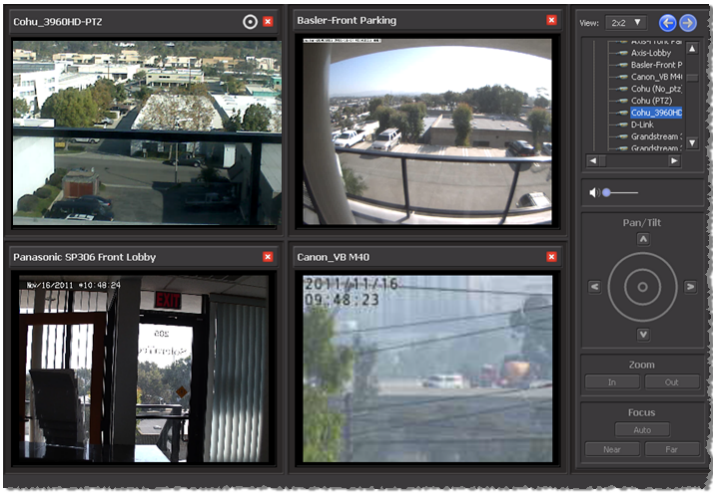
Wiper - Select for Wiper sub-menu containing duration options for the wiper to clean. Duration options are: 10 seconds, 1 minute, 15 minutes, and 30 minutes, 1 hour, and 2 hours. Also access the **Stop** menu item. (Displays only if camera has wiper functionality.)

Day/Night Mode - Select for the Day/Night Mode sub-menu containing mode options of Day, Night, and Auto. If Auto is selected the camera automatically adjusts to determine the correct mode. (This displays only if it is supported by Buffalo Surveillance Server for your camera, and if the camera has Day/Night Mode functionality.)

Select - Highlight the camera view frame. PTZ and Volume options are available, if applicable.

Close - Close the camera view (or click the **Close** button on the **Title** bar).

The screenshot below shows a layout, with feeds from four cameras displayed. If you create a new layout, remember to save it so you can use it as your default layout.



Double-click the **Title** bar of the view frame for the camera to quickly change the default layout to a single full screen camera view layout. Double-click again to return to the original layout.

View a feed from a camera 140

View feeds from a camera pool 141

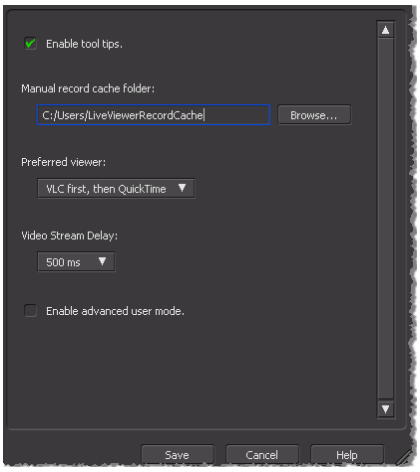
Change, save, or delete a live view layout 142

Control camera pan, tilt, zoom, and focus 143

Live Viewer User Preferences

Use the Live Viewer User Preferences to define default settings for the Live Viewer window.

Access the Live Viewer User Preferences from the Live Viewer **Tools** menu, select **User Preferences.**



Enable tool tips - A check mark by this element indicates that tool tips for the Live Viewer display. De-select to turn tool tips off.

Manual record cache folder - Specify where to store Live Viewer recordings. Click the **Browse** button to navigate to the cache location using the Browse for Folder dialog box.

Preferred Viewer - Select the type of video viewer to drive the play back of videos with, in the order to use the media players: **QuickTime first, then VLC**, **QuickTime only**, **VLC first, then QuickTime**, or **VLC only**.

Video Stream Delay - This selection determines how fast video feed streams to your camera view frame in Live Viewer. Changing the delay causes the video you are viewing to be delayed by that amount. The default value is 500 ms (milliseconds), but the options range from 50ms to 2 seconds. The smaller the delay value the video is viewed closer to real-time, but if the delay time is too small the video could freeze or hang.

Be sure to change the video stream delay setting before adding the camera to a view frame. If you change the preference after the camera has been added to the view frame, you will have to close it, change the setting again, and then re-add the camera to the view frame. If you close the Live Viewer application, your video stream delay preferences are saved, and ready for your next session.

If video freezes in low light conditions, set the video stream delay value to a larger value - at least 700ms or greater - especially on slow frame rate high definition cameras (such as Cohu).

Enable advanced user mode - A check mark by this element allows the shortcut menu to display from the Live Viewer when you right-click the **Title** bar. The advanced mode shortcut menu features camera related options if the camera has the available functionality (such as pan, tilt, zoom).

View a feed from a camera

If the live view option is enabled from a camera during configuration, you can view a camera's live feed in the Buffalo Surveillance Server Live Viewer.

View live feeds from up to 16 cameras at a time.

To view a live feed from a camera:

- Launch the Live Viewer 284 directly, or from the menu bar of the Surveillance Video Manager, select **Tools > Live Viewer**.

  The Live Viewer window opens, with frames for four camera views, by default. The title bar for each frame reads "Not in Use" as no cameras have been selected yet.

- Double-click the **Cameras** folder on the top right. The names of live view enabled cameras are displayed.

- Select the camera feed to view and drag it into a view frame.

  The camera's live feed is displayed, and the camera name is displayed in the title bar of the view frame.

- To view the feed from an additional camera, repeat the step above.

View feeds from a camera pool 141

Change, save, or delete a live view layout 142

View feeds from a camera pool

Camera pools are virtual groupings of cameras that users can define. For example, you might have a camera pool called "Doors" that includes all of the cameras that are videotaping the doors of your establishment.

It is often useful to see at a glance the live feeds from all of the cameras that belong to a certain pool. The Live Viewer lists camera pools as well as individual cameras so that you can easily see the live feeds from all of the cameras that belong to a particular pool.

You will only see live feeds from cameras that are configured with the live view option enabled.

To view live feeds from a camera pool:

- Launch the Live Viewer 284 directly, or from the menu bar of the Surveillance Video Manager, select **Tools > Live Viewer**.

  The Live Viewer window opens, with frames for four camera views, by default. The title bar of each view frame reads "Not in Use" as no cameras have been selected yet.

- Click the **Pools** folder on the top right. The names of the camera pools are displayed.

- Select the pool whose feeds you want to view and drag it into a view frame.

  Live views of the cameras contained in that camera pool will be displayed in the viewer window. The camera name for each camera is displayed in the title bar of its view frame.

Change, save, or delete a live view layout 142

Change, Save, or Delete a Live View Layout

The first time opened, the Live Viewer is set to display four feeds from two cameras, arranged as "2x2" (two rows of two across).

You can change the default Live Viewer display by modifying, renaming, deleting, and then saving the new layout. The Live Viewer remembers the last display and gives you the option to open it the next time you use Live Viewer.

To change the Live Viewer display:

- Click the **View** drop-down list at the top of the right-hand viewer control panel.
- Select the view configuration you want. The first number represents the number of live views across, in the row; the second number represents the number of rows, from top to bottom. You can view a maximum of 16 feeds (4x4) at a time.

To save a Live Viewer layout:

- Right-click the **Layouts** folder under the Entire Network area in the top right portion of the control panel, and select **Save Layout As**.
- In the Save As dialog box, enter a name for the layout, and a description.
- Click **OK**. The layout name you entered is listed under the Layouts folder in the Control Panel.

To rename a Live Viewer layout:

- Right-click the layout's name listed under the Layouts folder, and select **Rename Layout**.
- Enter the new name for the layout.

To delete a Live Viewer layout:

- Right-click the layout's name listed under the Layouts folder, and select **Delete Layout**.

For more information see View a feed from a camera 140 and View feeds from a camera pool 141.

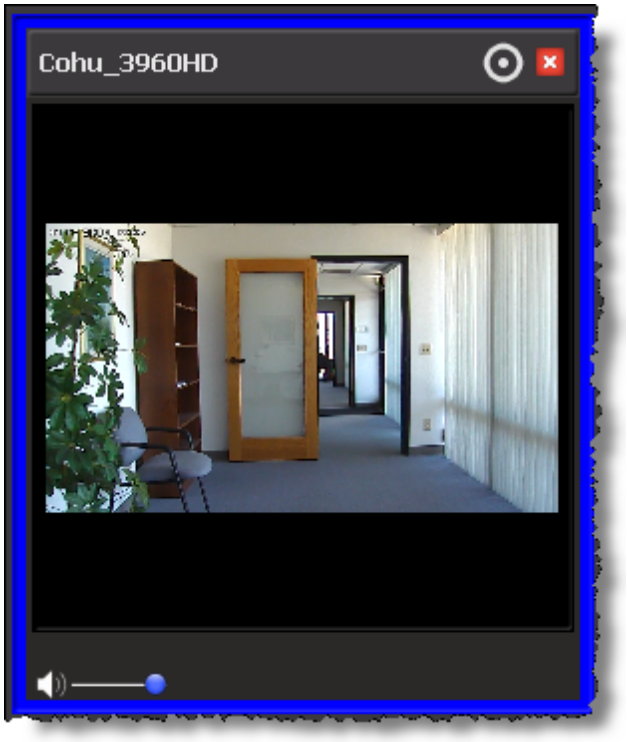
Control Camera Pan, Tilt, Zoom, and Focus

Buffalo Surveillance Server supports all IP configurable cameras, and most of the functionality of those cameras. If Buffalo Surveillance Server and your camera supports the Pan-Tilt-Zoom and focus functionality, and you selected the Enable PTZ option when you configured the camera in the Camera Policies application, you can control those functions from the Live Viewer control panel.

If those functions are enabled, you will see a white target symbol in the camera name bar of the camera feed when it is displayed in a view frame of the Live Viewer.

To control a camera's pan and tilt:

- Click the title bar of the view frame for the camera.
  A blue frame appears around the entire view frame to indicate that the controls are active.

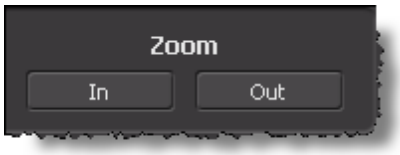


- In the **Pan/Tilt** area of the control panel on the right, click the left and right arrow buttons to pan the camera horizontally to the left and to the right.

- Click the up and down arrow buttons to tilt the camera vertically, up and down.

To control a camera's zoom:

- In the **Zoom** section of the control panel on the right, use the **In** button to zoom in on the center of the view. Use the **Out** button to zoom out from the center and include a wider angle of view.



To control a camera's focus:

- In the **Focus** section of the control panel on the right, use the **Auto** button to activate the camera's autofocus feature.
  Use the **Near** button to focus on near objects in the foreground.
  Use the **Far** button to focus on objects in the background.

View a feed from a camera 140

View feeds from a camera pool 141

Change, save, or delete a live view layout 142

Motion Detection Camera Configuration

When you add an RTSP enabled IP camera that provides motion detection information and gathering of that information is supported by the Buffalo Surveillance Server, the system automatically configures camera settings and automatically preserves motion metadata along with captured video. This data is then used by the Surveillance Video Manager (SVM) application to create histograms of detected motion. See the appropriate section for your camera.

- AXIS Camera Motion Detection Configuration 146
- Panasonic Camera Motion Detection Configuration 150

AXIS Camera Motion Detection Configuration

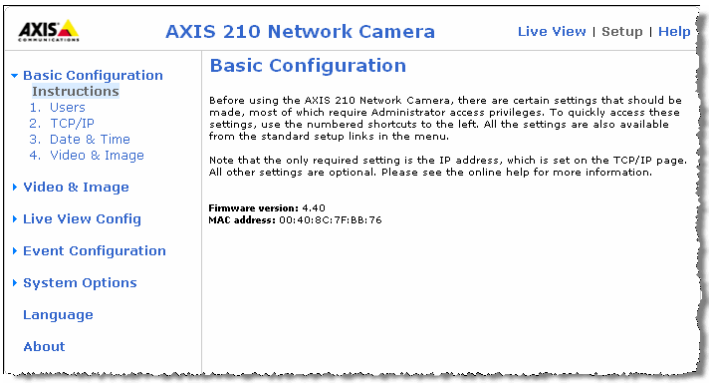
When you use Camera policies [49] to add an RTSP enabled AXIS IP camera that utilizes versions 2 or 3 of AXIS' VAPIX API, the Buffalo Surveillance Server automatically configures AXIS camera settings and automatically preserves motion detection metadata along with captured video. This data is then used by Surveillance Video Manager (SVM) to create histograms of detected motion. Default settings will be sufficient to meet most needs. You can, however, manually configure several parameters that affect performance.

Be sure to see your AXIS cameras' specifications to determine if your camera supports motion detection.

This section is intended for advanced users only and documents only the AXIS network camera configuration affected by the Buffalo Surveillance Server. For general and in-depth information about the AXIS network camera configuration web interface, please see your specific AXIS camera documentation.

Except for **Image Compression** and **Motion Detection** settings, **do not** modify pre-set Buffalo Surveillance Server configuration settings for your AXIS camera, as doing so may prevent the Buffalo Surveillance Server from capturing motion detection data.

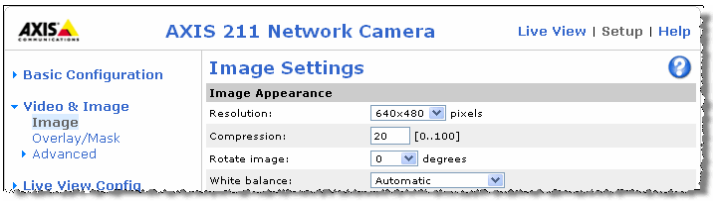
▸ To get started, open your AXIS camera management web interface:


AXIS 210 Network Camera
Live View | Setup | Help
Basic Configuration
Instructions
1. Users
2. TCP/IP
3. Date & Time
4. Video & Image
Video & Image
Live View Config
Event Configuration
System Options
Language
About
Basic Configuration
Before using the AXIS 210 Network Camera, there are certain settings that should be made, most of which require Administrator access privileges. To quickly access these settings, use the numbered shortcuts to the left. All the settings are also available from the standard setup links in the menu.
Note that the only required setting is the IP address, which is set on the TCP/IP page. All other settings are optional. Please see the online help for more information.
Firmware version: 4.40
MAC address: 00:40:8C:7F:BB:76

Modify Video Image Compression

The Buffalo Surveillance Server does not modify the default AXIS image compression parameter. To maximize performance and minimize loss of image quality, you may want to modify this value manually.

- Select **Video & Image**. The Image Settings page will appear:

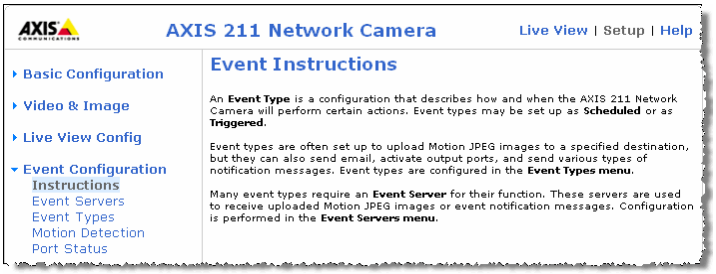


- Set **Compression** to 20. This setting will not be reset if you disable and then enable the camera via the Buffalo Surveillance Server. If you choose a setting that is less than 20, system performance may be impaired while motion is being recorded. If you choose a setting higher than 20, image quality may begin to degrade.

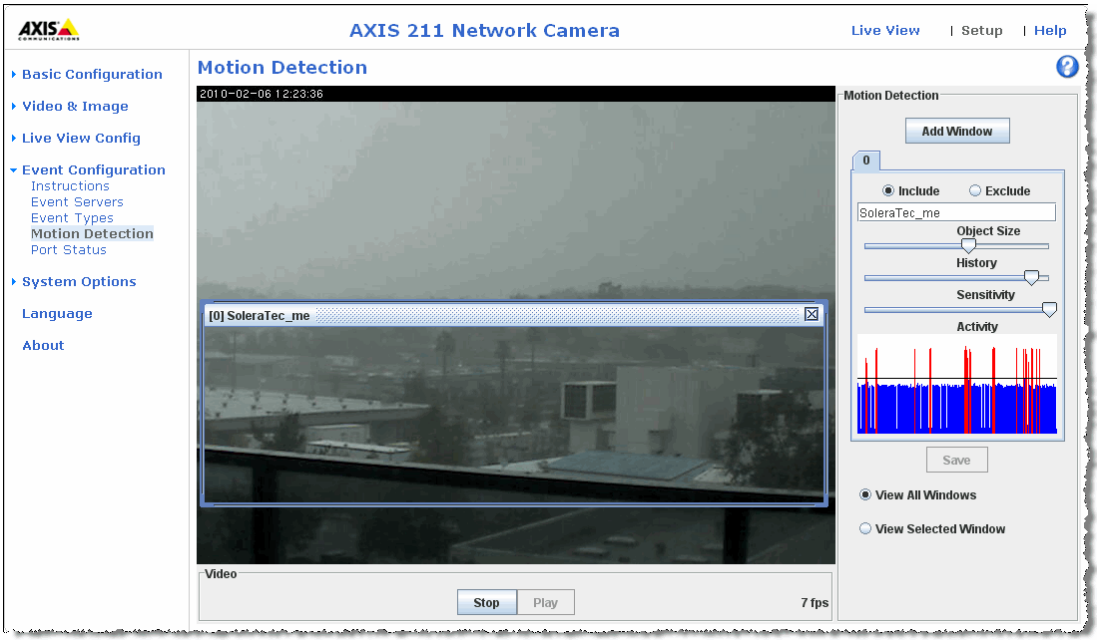
Modify Motion Detection Settings

Along with video compression, you may want to change the part of the camera's field of view that is covered by motion detection and motion detection sensitivity.

- Select **Event Configuration**. The Instructions page will appear:


AXIS 211 Network Camera
Live View | Setup | Help
Basic Configuration
Video & Image
Live View Config
Event Configuration
Instructions
Event Servers
Event Types
Motion Detection
Port Status
Event Instructions
An Event Type is a configuration that describes how and when the AXIS 211 Network Camera will perform certain actions. Event types may be set up as Scheduled or as Triggered.
Event types are often set up to upload Motion JPEG images to a specified destination, but they can also send email, activate output ports, and send various types of notification messages. Event types are configured in the Event Types menu.
Many event types require an Event Server for their function. These servers are used to receive uploaded Motion JPEG images or event notification messages. Configuration is performed in the Event Servers menu.

- Select **Motion Detection**. The Motion Detection Page will appear:



Each camera supports one motion detection area. This is the part of the camera's field of view that is covered by motion detection. By default, the entire field of view is selected. You can change the covered area to suit your needs by dragging the borders of the motion detection area frame (titled **SoleraTec_me** above) and the entire frame itself so that it covers the area that you want monitored for motion.

- Adjust the following parameters to suit your needs:

By default, **Include** is selected and the motion detection area is titled **SoleraTec_me**. Do not change these values

Field	Function
Object Size	Enables you to determine how large or small a moving object must be in order to trigger motion detection.
History	Enables you to determine the number of frames against which motion will be measured.
Sensitivity	Enables you to determine how much change will trigger a motion even.
Activity	Displays a histogram of motion activity. The amount of activity displayed will be determined by the settings you choose.

- When you are finished changing your Motion Detection settings, be sure to click **[Save]**.

Supported Cameras

The Buffalo Surveillance Server supports RTSP enabled AXIS IP cameras that utilize versions 2 or 3 of AXIS' VAPIX API. For a complete listing of cameras, go to AXIS's on-line Product Interface Guide: www.axis.com/techsup/cam_servers/dev/product_interface_guide.htm.

Panasonic Camera Motion Detection Configuration

This section is intended for advanced users only and documents only the Panasonic network camera configuration affected by the Buffalo Surveillance Server. For general and in-depth information about the Panasonic network camera configuration web interface, please see your specific Panasonic camera documentation.

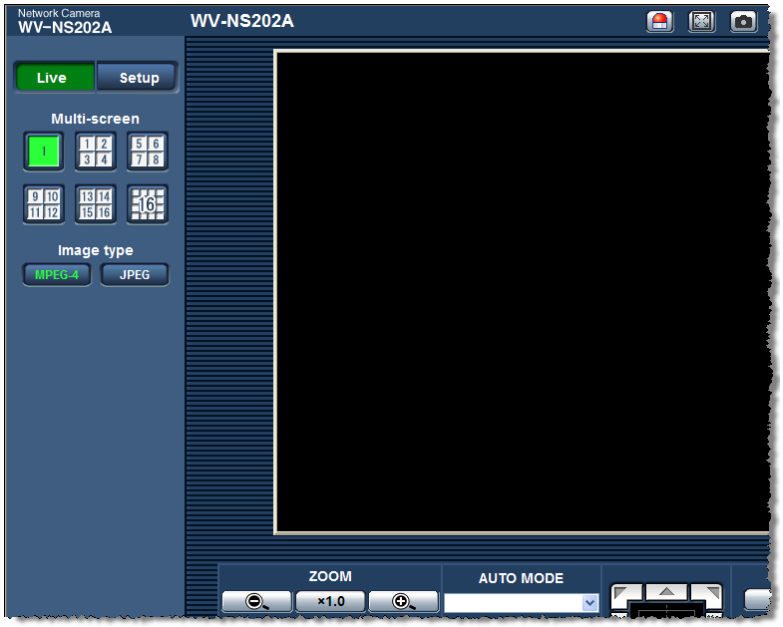
When you use Camera policies 49 to add a supported RTSP enabled Panasonic cameras that feature motion alarms, the Buffalo Surveillance Server automatically configures Panasonic camera settings and automatically preserves motion detection metadata along with captured video. This data is then used by the Buffalo Surveillance Server Surveillance Video Manager (SVM) to create histograms of detected motion. Default settings will be sufficient to meet most needs. You can, however, manually configure several parameters that affect performance.

Be sure to see your Panasonic cameras' specifications to determine if your camera features motion alarms.

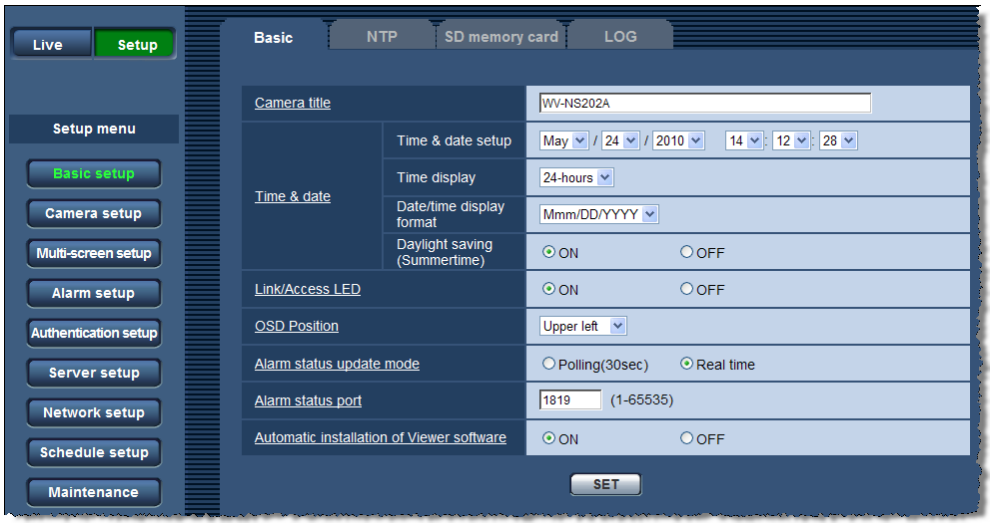
Modify Alarm and Motion Detection Settings

The Panasonic camera web interface enables you to set customized motion alarms for up to four individual areas per camera. To enable the Buffalo Surveillance Server to capture motion metadata, you will set up motion alarms.

▸ To get started, open your Panasonic Network Camera management web interface:

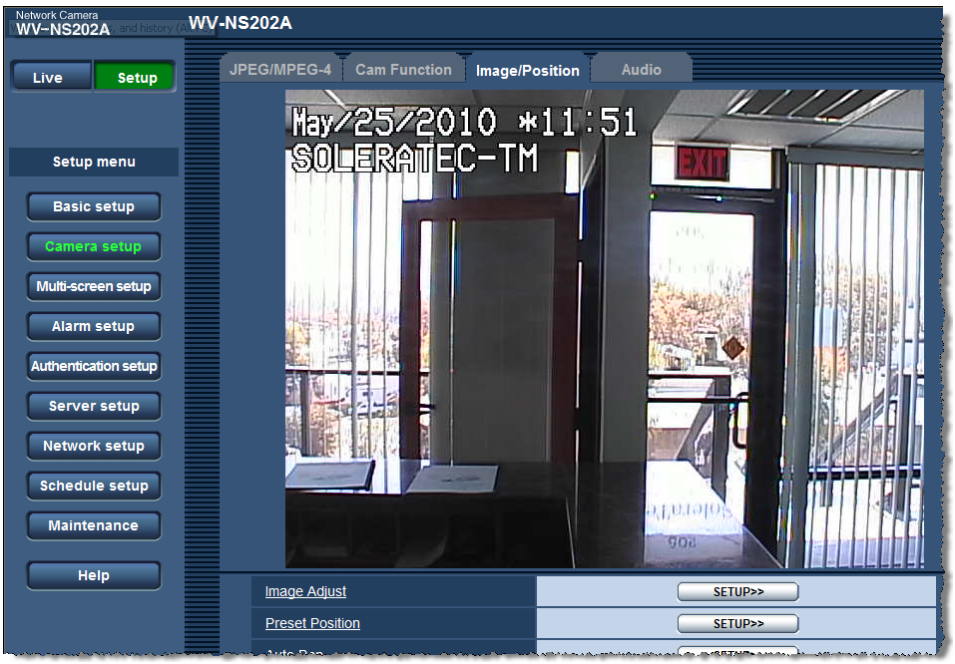


- Select **Setup**. The Setup page will appear:



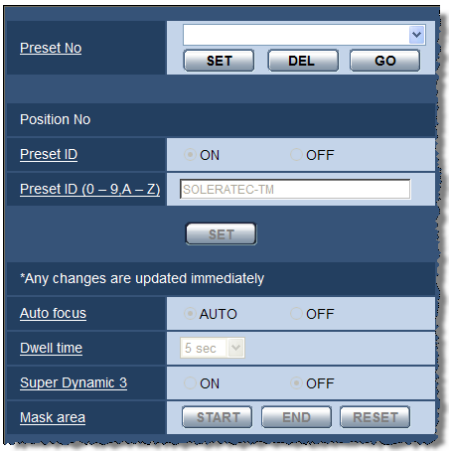
- Select **[Camera setup]**. The Camera setup page will appear:

- Select the **Image/Position** tab. Your camera's video feed will appear with the date, time and Preset ID listed at the top of the image. Ensure that **Preset ID** is set to **SOLERATEC-TM**:



If the preset ID is not set to **SOLERATEC-TM**, set the **Preset Position**:

- Beneath the video feed, find **Preset Position**, and then click **[SETUP]**. The **Position No** page will appear:

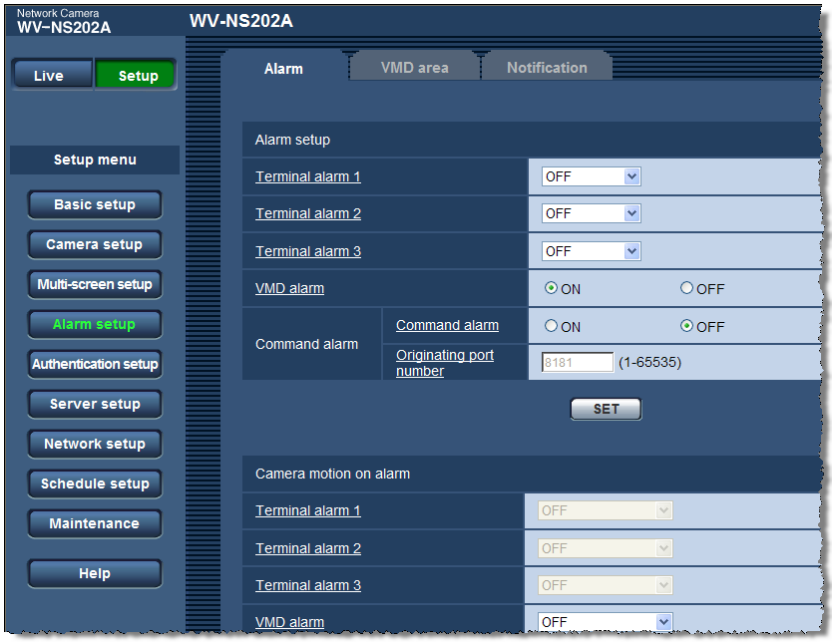


- In the **Preset No** field at the top of the page, use the pull down list to select **SOLERATEC-TM** , and then click **[SET]**. Beneath **Position No 1**, the **Preset ID** radio button should be set to **ON**, and the **Preset ID (0 - 9,A - Z)** field should be populated with **SOLERATEC-TM**.

If SOLERATEC-TM is not an option in the Preset No field, ensure that you have added your camera to the Information Repository correctly.

- Select [CLOSE] to close the window and return to the Image/Position tab on the Camera setup page. The Preset ID beneath the date and time should be SOLERATEC-TM.

- Select **[Alarm setup]**. The alarm setup page will appear:



- Select the **VMD area** (Video Motion Detection) tab. The video feed will appear. The white square enclosing most of the video feed indicates the area for which motion alarms can be set and motion detection metadata collected. This tab also enables you to modify the following parameters:

Field	Function
Status	Enables you to turn motion alarms and motion metadata gathering on and off. When set to ON, alarms are enabled and the Buffalo Surveillance Server will capture motion metadata. When set to OFF, alarms are disabled and no motion detection metadata will be captured.
Detection sensitivity	Enables you to define the level at which motion will be detected and recorded for the area of the feed for which a motion alarm can be set. This area is defined by the white square enclosing most of the video feed. You can choose a setting from Super high to Low, with Super high being the most sensitive to motion. If you set **Preset position select** (below), the Detection sensitivity settings on this tab will be ignored.

Field	Function
Preset position select	Enables you to define up to four discrete motion detection areas. If you do not select areas or all individual areas are deactivated, the system will detect motion in the entire, default area defined by the white square on the VMD area page. Each camera supports up to four motion detection areas. This is the part of the camera's field of view for which motion is monitored. By default, the entire field of view is selected. You can change covered areas to suit your needs by (1) deleting current areas, (2) creating new ones by dragging your cursor across the area you want covered, and (3) setting detection sensitivity. See the **Preset position select** section immediately below this table for detailed directions for creating motion detection areas.
Information addition	Should be set to OFF. Adds additional information, such as timestamp, that the Buffalo Surveillance Server does not use.

- When you are finished changing your motion detection settings, click **[SET]**.

Preset position select

- Beneath the video feed on the **VMD area** tab find the **Video area setting for Preset position** section. Select **[Setup]** to the right of **Preset position select**. The VMD area page (for Position No.1) will appear:

Each color-coded section represents one motion detection area. You can define up to four areas.

If you set **Preset position select options**, settings on the VMD area tab will be ignored.

- Change the covered areas to suit your needs by (1) deleting current areas and (2) creating new ones by dragging your cursor across the area you want covered.

- Setting the **Detection sensitivity**.

- Click **[SET]** to save and activate your settings.

Supported Cameras

The Buffalo Surveillance Server currently supports all RTSP enabled Panasonic 202 series cameras.

Manage Data and the Information Repository: Data Service Policies and Vault Admin

This section covers the applications you need to manage the Information Repository and the data it contains. This includes creating Data Service policies and managing devices and Vaults in the Information Repository.

- See Data Service Policies: Create Policies to Manage Data in the Information Repository 157 to learn how to use Data Service Policies to create powerful migrate, duplicate, and purge policies to automatically manage data in the Information Repository.
- See Vault Admin: Manage Vaults & Media 204 to learn basic media concepts as well as how to use Vault Admin to manage Vaults and media.

Data Service Policies: Create Policies to Manage Data in the Information Repository

Once files are in the Information Repository, you can use Data Service Policies to create policies to migrate, duplicate, or purge them. Policies control which files are affected during a particular migrate, replicate, or purge job, when the job starts, where the files are to be stored, how often the job runs, when it stops, and all other aspects of the job. Initial and subsequent storage devices do not have to be of the same technology, so you can easily build configurations that include disk to tape (D2T), disk to disk to tape (D2D2T) or virtually anything to anything. Unlike other policies that run on the computer on which they are created, every Data Service policy you create affects the entire Information Repository, and all Data Service policies appear and can be edited in any instance of Data Service Policies.

Policies can be broad or narrow. You can create replicate policies that provide multiple instances of the stored files that can be accessed for retrieval. Or, you can create migrate policies that move files from one Vault to another. For files that are no longer needed, you can create purge policies to manage the scheduled purging, thus keeping your Vaults free from unnecessary clutter. A single Vault can contain any number of policies that, when coordinated, migrate and duplicate files through a complex storage hierarchy that can span multiple sites.

The Data Services Policies window displays all of the Data Service policies implemented across the Information Repository. Consequently, if two or more users attempt to modify Data Service policies simultaneously, a conflict will occur, and only the changes by one of the users will be saved.

The Data Service Policies window is divided into two main frames: the right frame contains the tabs you will need to populate to create a policy, and the left frame provides an overview of all of the data service policies in the Information Repository. Overview information includes Policy Name, policy Host, data Source, and a policy Description.

The Data Service Policies menu bar includes the following:

- **File**: Includes commands for importing and exporting data service configuration (.cfg) files as well as saving settings for policies you have created or modified.
- **Edit**: Includes commands for adding, editing, and deleting policies.
- **View**: Includes commands for refreshing the policies with the latest versions, and turning on and off popup tips which you can hover over for more information about the fields in the tabs in the right frame and the policies in the left frame.

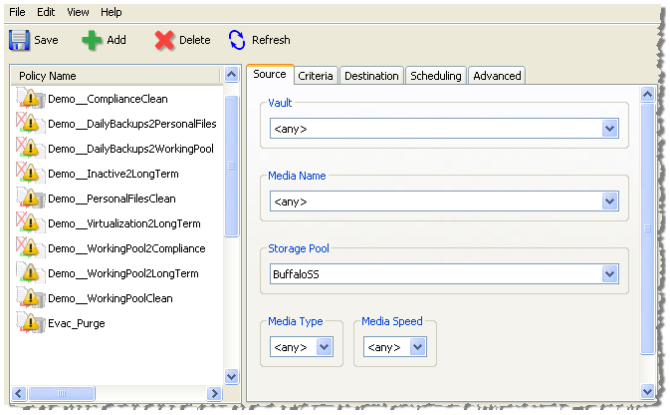
The Data Service Policies toolbar includes the following buttons:

Saves all policy settings.

Adds a new policy.

Deletes the selected policy.

Refreshes the view so that the latest version of each policy is displayed.



A triangular caution symbol superimposed on a policy icon in the left frame indicates that the policy is not active.

Offline Media

During a data service job, offline media will be used only if **Include offline files** is selected on the Advanced tab[196]. If **Include offline files** is not selected, attempting to use media that is offline may result in a "No resources available" error if suitable media cannot be found.

Load Balancing

You can denote a specific storage pool as part of the destination criteria for jobs. The Buffalo Surveillance Server's clients locate the Vault (or Vaults) that contains the denoted storage pool and stores the defined files to it. If there are multiple Vaults with media belonging to the storage pool defined for the initial job, clients pick the one with the most available free space on it. This keeps the entire Information Repository load balanced.

The Completeness and Accuracy of Stored Files

As a job is running, the Buffalo Surveillance Server continually verifies the completeness and accuracy of the stored files.

Most products with data verification features require the data to be read from the media that it is stored upon and compared to the original data on the client computer. While data verification is imperative, this method is very resource intensive and time consuming. In contrast, the Buffalo Surveillance Server uses a cyclic redundancy check (CRC) as the files are written to storage media.

If you are using policies to run jobs and an error or abnormal event occurs that prevents targeted files from being processed, clients add the filename to an internal retry list. At the end of the normal job and after the user-defined delay time, the client again attempts to process the files that could not be processed on the first pass. If a file cannot be processed during the retry session, the failure will be logged to a retry file and report. Any instance of videos that are not processed is included in the Information Repository's error logs. When a subsequent job starts, the Buffalo Surveillance Server looks for the retry file, and the videos slated for retry are added, with first priority, to the list of videos to be captured.

Refresh your view of policies in the Information Repository

Because all Data Service policies are implemented across the entire Information Repository, another user can change policies while you are working in Data Service Policies. To ensure that you are viewing the most current list of policies, use . You can also use to update the contents of the Vault, Media Name, and Storage Pool fields in case you have added Vaults, media, or storage pools via Vault Admin 204 while working in Data Service Policies.

If you use , any changes that you have made or policies you have added will be lost unless you first save.

How to Create a Data Service Policy - Overview

Follow the steps below to create a Data Service policy:

1. Launch Data Service Policies 157.
2. If a policy is not already open by default, create a policy 160. Before you can set parameters and initialize the process, a policy must be open.
3. Select the Source tab 175 to identify a Vault, media, or storage pool from which you want to migrate, replicate, or purge files.
4. Select the Criteria tab 179 to denote which files to migrate, duplicate, or purge. You can also add file and directory filters 183.
5. Select the Destination tab 188 to specify where you want the files migrated or replicated to.
6. Select the Scheduling tab 193 to define when you want jobs to occur. By default, Data Service policies are not scheduled run.
7. Select the Advanced tab 196 to set options such as pre- and post-processing commands, log output location, connection sharing, and throttling.
8. Click to initiate the policy.

Create, Modify, or Delete Policies in Data Service Policies

Policies define what data will be moved and how it will be moved. They define process parameters that include the media, data source, and data destination values. Every policy that you create using Data Service Policies must be for migrating, duplicating, or purging files. To meet complex ILM needs, you would create several policies, each one responsible for one part of the overall data movement process. The policy name that you create appears in the left half of the application window, in the policy selection frame, and is saved as part of the active configuration.

If at any time after you add a policy you find that the policy no longer meets your needs, you can always modify or delete it by following the directions below.

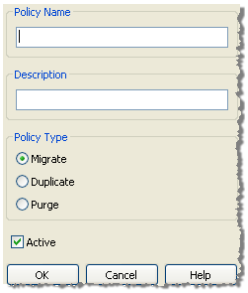
Once a policy is created that meets your requirements, be sure to back it up by exporting it. This enables you to easily restore (import) lost or corrupted policies. See Import or Export Policies for directions.

Duplicate policy names are permitted.

- For directions on policy creation, see Create a Policy 160.
- For directions on policy modification, see Modify a Policy 161.
- For directions on policy deletion, see Delete a Policy 163.

Create a Policy

- Click to create a new policy. The **Create a Policy** window appears.



- Enter a name for the policy.
- Enter a description that tells you something about the policy so that you can know what it does without having to open it.
- Select a **Policy Type:**

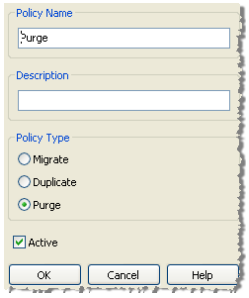
Policy Type	Action
Migrate	Moves files from one location to another. When migrating from tape media, files are marked as deleted, not actually deleted until the media is reused and files are overwritten. This enables migration jobs to finish in a timely manner.
Duplicate	Copies files from one Vault to another, retaining the original stored copy.
Purge	Permanently deletes files from the Information Repository. When you select Purge for files on a unit of tape media, a flag indicating that the files on the tape are "deleted" is logged in the database log index. However, the files are not actually removed from the tape until you run Erase Selected Media 257 and media is reused and files are overwritten. In contrast, files on hard disk media are purged immediately. Do not run purge policies on critical data that you might want to preserve. Once data is purged, it is gone forever.

- Ensure the policy is active, or de-select the **Active** check box if you do not want the policy to run. When the **Active** check box is de-selected, the ⚠ symbol is superimposed over the policy icon in the **Policy Name** pane.
- Click **OK**. The window closes, the policy name and description appear in the **Policy Name** pane.
- Modify the parameters as needed on each tab for the policy. See the subsequent sections for details.
- Click to save all policy settings and implement the policy.

Modify a Selected Policy

With this feature, you can modify a policy's name, description, and type apart from its parameters (included files, destination, scheduling, etc.).

- Double-click the policy name in the **Policy Name** frame. The **Modify Selected Policy** window appears.



- Enter the new name in the **Policy Name** text box.
- Enter the modified description in the **Description** text box.
- Select a **Policy Type**:

Policy Type	Action
Migrate	Moves files from one location to another. When migrating from tape media, files are marked as deleted, not actually deleted until the media is reused and files are overwritten. This enables migration jobs to finish in a timely manner.
Duplicate	Copies files from one Vault to another, retaining the original stored copy.
Purge	Permanently deletes files from the Information Repository. When you select Purge for files on a unit of tape media, a flag indicating that the files on the tape are "deleted" is logged in the database log index. However, the files are not actually removed from the tape until you run Erase Selected Media 257 and media is reused and files are overwritten. In contrast, files on hard disk media are purged immediately. Do not run purge policies on critical data that you might want to preserve. Once data is purged, it is gone forever.

- Ensure the policy is active, or de-select the **Active** check box if you do not want the policy to run. When the **Active** check box is de-selected, the ⚠ symbol is superimposed over the policy icon in the **Policy Name** pane.
- Click **OK**. The window closes, the policy name and description appear in the **Policy Name** pane.

- Modify the parameters as needed on each tab for the policy. See the subsequent sections for details.
- Click to save all policy settings and implement the policy.

Delete a Selected Policy

You can delete a policy that no longer meets your needs, or you can de-activate a policy at present and re-activate it at a later time when needed.

To delete a policy:

- In the **Policy Name** pane, click the policy to delete.
- Click .
- Click to save all policy settings and implement the policy.

If you delete a policy while a job is running based on that policy, the job will stop as soon as it is finished processing the current file.

To make an active policy inactive:

- In the **Policy Name** pane, double-click the policy.
- In the **Modify Selected Policy** window, de-select the **Active** check box.

Import or Export Data Service Policies

This section is intended for advanced users. Buffalo Surveillance Server policy importing and exporting functionality allows you to save policies, restore policies, and copy sets of policies from one computer to another. After creating a set of policies, Export them to a policy file. Later, if you want to re-implement the set of policies or implement them for the first time on another computer, simply Import them. Use the import and export functionality to take a snapshot of the working policy configuration, bring new computers on-line, test different policy configurations, or restore user corrupted policy configurations.

By default, recording policies are exported to **CameraPolicies.cfg**. Data service policies are exported to **DataSvcsSvc.cfg**.

Although each policy editor uses only one policy set at a time, multiple policy sets exported to policy files can be used. Create, name, and use any file naming convention for policy files, and be sure to keep track of where policies are exported to if it is a location other than the default location (the user's home directory).

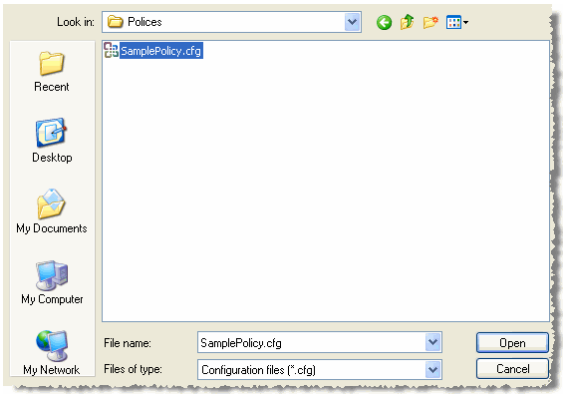
Before restoring a set of policies to a computer that currently has policies set up, be sure to delete all of the current policies before importing other policies - otherwise imported policies are added to current policies.

Data Service policies are incompatible with other client policies and vice versa. If you try to import a Data Service policy into a non-Data Services policies client (or vice versa), you will get an error message, and no policies are added.

Import Policies

When you import policies, they are added to the policies that are already in the policy editor.

- In the Policy Editor menu, click **File** > **Import from**. The Import From window appears.

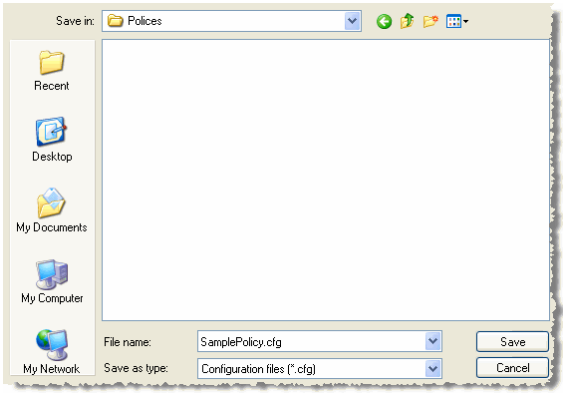


- If you are not importing policies from your local computer, navigate to the networked computer that contains the policies that you need.
- Select the policy file that contains the policies that you want to use.
- Click **Open**. The policies in the configuration file are implemented.

Export Policies

- Create policies that you require.

- In the Policy Editor menu, click **File** > **Export to**. The Export to window appears.



- To save your policies with the default policy file name, click **Save** without entering a new file name.

Or,

- To save your new policies under a new policy file name, enter a new name In the Export to window, and then click **Save**.

Import/Export Policy File Structure

The file to which the policy is exported is block structured but free from any column or order formatting. The tokens listed below specify job criteria. By default, the Buffalo Surveillance Server exports to and imports from <install-dir>/Config/DataSvcsSvc.cfg.

Files that contain policies are formatted as follows. Each policy is a single block. The beginning of each block is indicated by `policy_name="<policy name>"`.

```
policy_name="<policy name>"
[
 <token>=<value>
 <token>=<value>
 . . .
]
policy_name="<policy name>"
[
 <token>=<value>
 <token>=<value>
 . . .
]
. . .
```

Token/Value Pairs

A token is a job attribute that is given a value that determines how a job will be run. Following are the tokens and their definitions.

Token/Value	Description
absolute_start=<*yyyy*>/<*mm*> /<*dd*>-<*hh*>:<*mm*>:<*ss*>	Used only in the policy file. The exact start time and date that the job is to run. Multiple absolute start tokens may be entered.[1]
active=<*Boolean*>	Used only in policy file. Defines whether the policy is active or inactive. Valid values = true | false Default = true
complete=<*Boolean*>	Prints all summary information plus the pathnames of the files migrated to the file indicated by the list_pn option. (Below) Valid values = true | false Default = false
content_filter="<*character string*>"	A word or phrase in the file to be processed. Default = ""
data_paths=<*number*>	The maximum number of concurrent files permitted to be sent during a job. Default = 1
deleted_files=<*Boolean*>	Includes files tagged for deletion. Valid values = true | false Default = false
diag=<*Boolean*>	Prints diagnostic information to the path indicated in the list_pn option (below). Valid values = true | false Default = false
dir_spec="<*pathname*>"	Specifies which directories to include. Multiple dir_spec options can be specified. The dir_spec check is made for every directory found. This includes the directories contained in the pathname list that the job will traverse. Default = "*" (any)

Token/Value	Description
display_only=<*Boolean*>	Causes job to search for target files without processing them. Lists the files that would have been processed. Valid values = true | false Default = false
dst_media_name="<*character string*>"	Specifies the destination media name. If you don't specify a value in this option, the Buffalo Surveillance Server uses the first available unit of media. Default = "*" (any)
dst_media_speed=<*character string*>	Specifies the destination media to be used according to media speed. Valid values = • S0 - S10 • Unspecified Default = unspecified
dst_media_type=<*character string*>	Specifies the destination media type to be used. Valid Values = • Hdisk – hard disk • 8mm - Eight-millimeter tape • Dds – Digital data storage • Dlt - Digital linear tape • Ait – Advanced intelligent tape • SuperAit – Super advanced intelligent tape • Vxa – Exabyte VXA tape • Travan - Travan tape • Lto – Linear tape open • MagOptical – Read/write optical • Unspecified Default = unspecified

Token/Value	Description
dst_storage_pool="<*character string*>"	Specifies the name of the destination storage pool to be used. Use "" for no storage pool name. Default = "*" (any)
dst_Vault_name="<*character string*>"	Specifies the destination Vault to be used. Default = "*" (any)
dst_volume_format	Currently not supported.
dst_volume_name	Currently not supported.
dt_access=<*alpha*><*yyyy*>/<*mm*>/<*dd*>-<*hh*>:<*mm*>:<*ss*>	Processes files based on the accessed date and time. Valid values = • AO (Absolute Old) – Selects files with a dtu (date_time_use) equal to or before the specified date. Enter the year as a 4-digit number. • AN (Absolute New) – Selects files with a dtu equal to or after the specified date. Enter the year as a 4-digit number. • RO (Relative Old) – Selects files with a dtu equal to or before the relative specified date. • RN (Relative New) – Selects files with a dtu equal to or after the relative specified date. • I (Inactive) – Do not use date. Default = I
dt_stored=<*alpha*><*yyyy*>/<*mm*>/<*dd*>-<*hh*>:<*mm*>:<*ss*>	Processes files based on the date and time stored on the Vault. Valid values = • AO (Absolute Old) – Selects files with a dtu (date_time_use) equal to or before the specified date. Enter the year as a 4-digit number. • AN (Absolute New) – Selects files with a dtu equal to or after the specified date. Enter the year as a 4-digit number.

Token/Value	Description
	• RO (Relative Old) – Selects files with a dtu equal to or before the relative specified date. • RN (Relative New) – Selects files with a dtu equal to or after the relative specified date. • I (Inactive) – Do not use date. Default = I
error_log="<*pathname*>"	Specifies the path for the error log file. If you specify "/dev/tty", error messages will display on the default output device. Supports token substitution. Default path for the configuration file = "%R/Logs/%P.err" Default path for the command line = "/dev/tty"
exclude_dir_spec="<*pathname*>"	Omits directories. Accepts multiple instances. Default = "" (no directories excluded)
exclude_file_spec="<*pathname*>"	Omits files. Accepts multiple instances. Default = "" (no files excluded)
file_spec="<*pattern*>"	Sets the criteria for files that are to be processed. This token/value pair can be specified multiple times to include multiple file filters. Default = "*" (any)
hostname="<*host name*>"	Selects the files that are to be processed based on the original host name for the file. Default = ""
include_offline=<*Boolean*>	Processes files from off-line media. Valid values = true | false Default = false
job_type=<*alpha*>	Specifies the job type. Valid values =

Token/Value	Description
	• replicate • migrate • purge Default = migrate
keep=<*Boolean*>	Keeps a copy of the source files after they have been processed. Valid values = true | false You would use "false" to create a move policy; use "true" to create a replicate policy. Default = false
list_pn="<*pathname*>"	Specifies the filename to which all report information is written. Supports token substitution. Default path for the policy file = "%R/Logs/%P.log" Default path for the command line = "/dev/tty"
max_file_size=<*number*>	Specifies the maximum size in bytes of a source file. The min_file_size and max_file_size options are mutually exclusive. Default = 18446744073709551615
min_file_size=<*number*>	Specifies the minimum size in bytes of a source file. The max_file_size and min_file_size options are mutually exclusive. Default = 0 (none)
out_of_band=<*Boolean*>	Enables the application to constantly monitor its processes and select the network transmission protocol that best suits the files being processed. Valid values = true | false Default = true
post_proc_cmd="<*command*>"	Specifies a command that runs immediately after the job is finished. Supports token substitution. Default = ""

Token/Value	Description
pre_proc_cmd="<*command*>"	Specifies a pre-process command that runs immediately before a job starts. Supports token substitution. Default = ""
remove_only=<*Boolean*>	Purges the targeted file from the source Vault instead of migrating or replicating it. Valid values = true | false Default = false
repeat_interval=<*hh:ss:mm*>	Used only in the policy file. The amount of time that elapses before a job is repeated.[1] Default = 24:00:00
src_high_water_mark=<*number*>	Specifies the maximum percent (%) of media that will be used. If the % used is greater than the entered value, the file is processed. Valid values = 1 - 100 Default = 0
src_low_water_mark=<*number*>	Specifies the minimum percent (%) of media used after the high watermark has been reached. If the % of media used is greater than this value and the high watermark has been reached, the file is processed. Valid values = 1 - 100 Default = 0
src_media_name="<*character string*>"	Specifies the source media name. Default = "*" (any)
src_media_speed=<*character string*>	Specifies the source media speed. Valid values = • S0 - S10 • Unspecified Default = unspecified
src_media_type=<*character string*>	Specifies the source media type from which the file should be processes.

Token/Value	Description
	• Hdisk – hard disk. • 8mm – Eight-millimeter tape. • Dds – Digital data storage. • Dlt – Digital linear tape. • Ait – Advanced intelligent tape. • SuperAit – Super advanced intelligent tape. • Lto – Linear tape open. • Vxa – Exabyte Vxa tape. • Travan - Travan tape. • MagOptical – Read/write optical. • NullDevice • unspecified Default = unspecified
src_storage_pool="<*character string*>"	Specifies the source storage pool. Default = "*" (any)
src_Vault_name="<*character string*>"	Specifies the source Vault. Default = "*" (any)
src_volume_format	Currently not supported.
src_volume_name	Currently not supported.
start_days=<*mtwtfss*>	Used only in the policy file. Specifies the days on which the job will run. Use **-** to indicate days that job will not run. For example, if the job is to run on Thursday, you would enter ---t---.[1] Default = mtwtfss
start_time=<*hh:mm:ss*>	Used only in the policy file. Specifies the time the job should start for each defined start day in start_days.[1] Default = 0:0:0 (midnight)

Token/Value	Description
stop_time=R<*yyyy*>/<*mm*> /<*dd*>-<*hh*>:<*mm*>:<*ss*>	Used only in the policy file. Specifies the date and time at which the job will be stopped. The date and time entered is relative to the start of the job. Default = 0/0/0-0:0:0 (no stop time)
summary=<*Boolean*>	Prints the start and stop times and final statistics of the job to the file indicated by the list_pn option (above). Valid values = true | false Default = true
throttle=<*number*>	Throttling controls the amount of bandwidth used by jobs (and, therefore, the speed at which files are sent to Vaults). Throttle values are relative to Information Repository capacity and range from 1% to 100%. A lower setting reduces the amount of available bandwidth that will be used. Valid values = 1 - 100 Default = 100
type="<*alpha*>"	The policy type of the policy file. Only "ds" is valid for Data Service policies.
vcs= <alpha><*number*>	Specifies the number of files (F) or number of bytes (S) to store per single Vault connection. Valid values = • F – files • S – bytes • 1 - ∞ Default = F500
version="<*number*>"	The version number of the currently installed command line application. Only the current version number is valid. This number will change with new releases.
volume_use	Currently not supported.

[1]**Note:** Timing tokens are mutually exclusive. Only one timing token may be set. In other words, you may set either absolute_start, or repeat_interval, or start_days AND start_time.

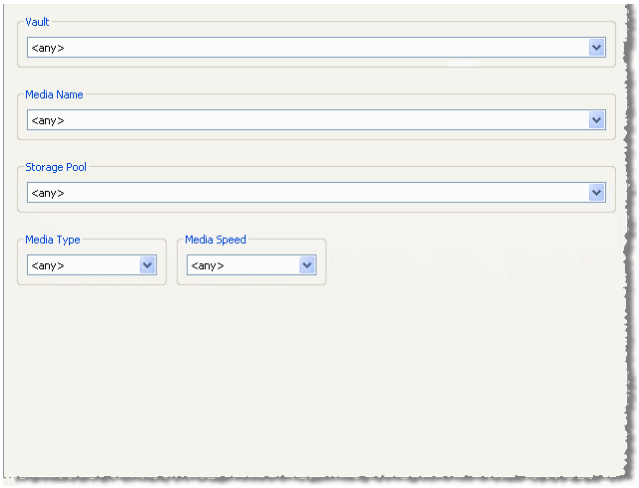
Sample Data Service Policy

If you were to export a policy, it would look similar to the following:

```
# Start of object rule for policy name 'Long Term Storage'
#
policy_name = "Long Term Storage"
[
 type                    = "ds"
 version                 = "1.0"
 active                  = true
 content_filter          = ""
 data_paths              = 1
 deleted_files           = false
 diag                    = false
 display_only            = false
 dst_Vault_name          = "*"
 dst_media_name          = "*"
 dst_storage_pool        = "*"
 dst_media_speed         = Unspecified
 dst_media_type          = Unspecified
 dst_volume_format       = Unspecified
 dst_volume_name         = "*"
 dt_access               = I
 dt_stored               = I
 error_log               = "%R/Logs/%P.err"
 hostname                = ""
 include_offline         = false
 job_type                = "migrate"
 list_pn                 = "%R/Logs/%P.log"
 min_file_size           = 0
 max_file_size           = 18446744073709551615
 src_Vault_name          = "*"
 src_media_name          = "*"
 src_storage_pool        = "*"
 src_media_speed         = Unspecified
 src_media_type          = Unspecified
 src_volume_format       = Unspecified
 src_volume_name         = "*"
 volume_use              = Unspecified
 out_of_band             = true
 post_proc_cmd           = ""
 pre_proc_cmd            = ""
 start_days              = mtwtfss
 start_time              = 0:0:0
 src_high_water_mark     = 0
 src_low_water_mark      = 0
 stop_time               = 0/0/0-0:0:0
 summary                 = true
 throttle                = 100
 vcs                     = F500
 verbose                 = false
]
```

Source Tab: Specify Where Files Come From

After you add a policy, the next step is to define the source from which files will be migrated, replicated, or purged. "Source" indicates from which Vault, media, storage pool, media type, and/or media speed you will migrate, duplicate, or purge files.



If you leave any field set to the default (**<any>**), the Buffalo Surveillance Server will process **all** of the information from all of the sources for the given field in the Information Repository. For example, if you leave Vault set to <any>, the Buffalo Surveillance Server will process data from all of the Vaults in your Information Repository.

If you wish to create a new name for any parameter, you may not use the following names already used by the Information Repository: unnamed, any, new entry.

Only <any>, <unnamed>, <new entry> and/or the names of Vaults, media, storage pools, media types, and media speeds that are already implemented in the Information Repository appear in the pull-down lists unless you have added new parameters. If you plan to add new Vaults, media, or storage pools to the Information Repository at a later time and know the name that you will assign to the Vaults, media, or storage pools, you can add them manually. However, to minimize the risk of error, it is best to choose only media that appear in the pull-down list. There are several options for doing this:

- Leave all of the fields set to the default (<any> or <unnamed>) and use the Criteria tab to define what data will be processed.

  The Buffalo Surveillance Server will choose the most accessible Vault and Media with the most free space.

- Select a value from the field that you know contains the data you want to process and let Buffalo Surveillance Server take care of the rest.

If, for example, you select a Media Speed of S8, the Buffalo Surveillance Server will process data only from media with an S8 speed rating. Likewise, if you select only a Storage Pool or Media Name, the Buffalo Surveillance Server will process only files from the storage pool or media that you select. Similarly, if you select only a Vault, the Buffalo Surveillance Server will process data only from the Vault that you select, including all of the media and storage pools within the Vault.

- Select values from every field for a more focused process.

  When you select a value from Vault, Media Name, or Storage Pool, the Buffalo Surveillance Server limits the options available in the remaining fields to only those commensurate with the value you have selected. A single storage pool may comprise several units of media and/or Vaults.

- Create a new entry or entries for Vault, Media Name, and/or Storage Pool.

  - Use the pull-down control for Vault, Media Name, and/or Storage Pool, and then select <new entry>. A window appears into which you can enter the new name for the field. Enter the new Vault, Media Name, or Storage Pool, and click **[OK]**. The new entry appears in the field's pull-down list.

  Although you can enter a new name here, it is a placeholder that cannot be used to run jobs until you have actually created and configured the Vault, media, storage pool in the VaultAdmin application. If you try to run a job with a Vault, media, or storage pool that has not yet been created using VaultAdmin, the job will fail.

  The names above **<any>** represent Vaults, media, or storage pools actually running in your Information Repository. The names below the divider are the ones that you have not yet been configured in the VaultAdmin application.

  If you enter a new name for a Vault, the Media Name and Storage Pool options are limited to <any> and <new entry>. New entries in Media Name or Storage pool do not limit options in the remaining fields.

  <unnamed> and <any> are not just placeholders. They are literal names that are used in your Information Repository unless you provide alternate names.

  To return the tab to a state where you can choose any value from any field, select <any> in the Vault field.

  When entering pathnames or pathname searching patterns, only the forward slash (/) may be used as a pathname delimiter. If you use a backslash (\), as is customary on some platforms, you may get unexpected results.

Wildcard Operators for Vault, Media Name, and Storage Pool

The Buffalo Surveillance Server supports the following wildcards with case sensitive alpha characters in the **Vault**, **Media Name**, and **Storage Pool** fields:

***** for zero or more of any character

? for any single character

*** Substitutes for zero or more characters.** Can be used in truncation and for multiple characters. If used in a pathname, it cannot replace a forward slash (/). Use ***** for all possible alternative spellings and an unlimited number of characters within a name.

For example, **h*ophilia** substitutes for all names containing **h**+**<any character or number of characters>**+**ophilia**, such as haemophilia, hemophilia, or h.123ophelia; **behavi*r** substitutes for all names containing **behavi**+**<any character or number of characters>**+**r**, such as behaviour, behavior, or behavi123.zr; **patent*** substitutes for only all names containing **patent**+**<a character or any number of characters>**, such as patents, patentable, patented, patent123, and so on; **patent*.jpg** substitutes for only all names containing **patent**+**<a character or any number of characters>**+**.jpg**, such as patents.jpg, patentable.jpg, patented.jpg, patent123.jpg, etc; ***.jpg** substitutes for only all names containing **<any character or set of characters>**+**.jpg**.

? Substitutes for any single character and can be combined to denote multiple characters. If used in a pathname, it cannot replace a forward slash (/). Use **?** for specific alternative spellings. **?** substitutes for a single character; **??** substitutes for two characters; **???** substitutes for three characters, and so on. Only names with characters equal to the number of ? used are processed. For example, **cell?** substitutes for all names containing **cell** +**<one additional character>**.

For example, cells and cello but not cell. You can use ? within or at the end of a phrase. For example, **.xl?** substitutes for only names containing **.xl**+**<a third character>**, such as .xls, . xlr, and so on; **wom?n** substitutes for only names containing **wom**+**<a third character>**+**n**, such as woman or women; **carbon fib??** substitutes for only names containing **carbon fib**+ **<two characters>**, such as carbon fiber or carbon fibre.

In the **Vault**, **Media Name**, or **Storage Pool** fields, substitute the appropriate wildcard character for any letter or letters. For example, lets say you have four Vaults:

- Accounting
- Administrative
- Development
- Sarbanes-Oxley

And, you want to migrate data only to Vaults named "Accounting" and "Actuarial". In the Vault field, you would enter *Ac**, and data will be stored only to Vaults beginning with *Ac*, regardless of what comes after *c*. The same type of scenario would pertain if you wanted to use wildcards in the Media Name field.

When you use a wildcard in the Vault field, only media and storage pools associated with the selected Vault are displayed in the Media Name and Storage Pool fields. For example, if you enter *j** in the Vault field, only Media and Storage Pools in Vaults beginning with *j* will appear in the Media Name and Storage Pool fields. The functionality is similar for Media Name. For example, if you enter *Ni**, only storage pools beginning with *Ni* will be displayed in the Storage Pool field.

See Advanced Wildcard Functionality for a complete list of and more complete information about wildcards.

Source Fields

Vault

Vaults are the basic units of storage in your Information Repository.

- Click the pull-down control arrow and, from the list that appears, select a Vault; or, select **<new entry>** to add a new Vault name. When you select a Vault, the Buffalo Surveillance Server will populate the Media Name pull-down menu with the media that it finds on the given Vault.

If you enter a new name for a Vault, the Media Name and Storage Pool options will be limited to <any> or <unnamed> and <new entry>.

Media Name

Media Name refers to the names of individual units of media in the Vaults of your Information Repository.

- Click the pull-down control arrow and, from the list that appears, select the media; or, select **<new entry>** to add a new media name. The Buffalo Surveillance Server will then automatically look for the Storage Pools that comprise the media. If the Buffalo Surveillance Server cannot find storage pools that comprise the media that you have selected, the Storage Pool field will display <any>.

Storage Pool

Storage Pools are groupings of media utilized for a particular purpose. A typical example of storage pooling is the utilization of several units of media for a single policy. For example, if you want to have the "Monday night backup" write to several units of media, you would use a "Monday night backup" storage pool and assign to it every unit of media that you want to use for that purpose. (See **Prepare Media, Storage Pool** for information about creating storage pools using Vault Admin.)

- Click the pull-down control arrow and, from the list that appears, select a storage pool; or, select **<new entry>** to add a new storage pool name.

Media Type

You can determine the types of media your policy will use by specifying a media type. For example, if "Hdisk" is an option and you select it, only Hdisk media will be utilized. This setting is useful for processing data of lower importance or less rigorous recovery time objectives.

You can set either Media Type or Media Speed but not both.

Although only Hdisk media will be used, the names displayed in the other fields will not change.

- Click the pull-down control arrow under the **Media Type** label, and select the media type. Only the media types that are available for the parameters you have chosen in the Vault, Media Name, or Storage Pool fields will be displayed. If no Vault, media, or storage pool is chosen, only the media types from media available within the Information Repository will be displayed.

Media Speed

Storage technologies supported by the Buffalo Surveillance Server are categorized by their performance. The Media Speed setting is useful for processing data of lower importance or less rigorous recovery time objectives. Media Speed enables you to specify what media will be used based on media performance. For example, if "S4" is an option and you select it, only S4 media will be utilized.

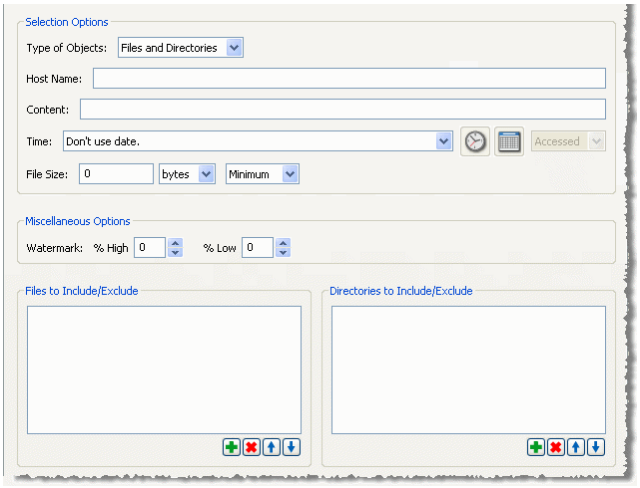
Although only S4 media will be used, the names displayed in the other fields will not change.

Hard disk is considered a high performance media and is assigned a high rating (S8). Slower tape technologies are lower performance and are assigned a lower rating (S0). **You can set either Media Type or Media Speed but not both**.

- Click the pull-down control arrow under the **Media Speed** label, and then select a performance rating. The Buffalo Surveillance Server will display only the media speeds that are available for the parameters you have chosen in the Vault, Media Name, or Storage Pool fields. If no Vault, media, or storage pool is chosen, only the speeds from media available within the Information Repository will be displayed.

Criteria Tab: Set File Eligibility Definitions

After you have selected a data source, you can further refine which specific files are moved by configuring parameters under the Criteria tab. If you leave all the fields on this tab empty, all of the files that reside on the source media are migrated, replicated, or purged. To select files from specific locations or of specific types, use filters as described below.



Type of Objects

This option enables you to select which types of objects are processed. If you select "Files and Directories", both files and directories are processed and rights for both are preserved. If you select "Directories Only", directories and their rights are processed. Files are ignored. If you select, "Files Only", only files and their rights are preserved. Directories are ignored.

Host Name

This option enables you to migrate all of the files from a particular host computer. If you use this parameter, the policy processes only files that originally came from the host computer that you name.

- Enter the name of the computer, as shown in your network, that you want to define as the Host.

Content

This option enables you to limit the files that are processed to only those containing a particular word or phrase. If you want to process only files that contain a particular phrase, be sure to enclose the phrase in quotation marks. Otherwise, the application processes all of the files containing any word that you enter. For example, if you enter "Information Repository", only files that contain the complete phrase "information repository" are processed. In contrast, if you enter Information Repository, any file containing "information repository", "repository information", "information", or "repository" are processed. Regardless of quotes, case is ignored.

The **Content** field supports the following single and multiple wildcards:

***** for zero or more of any character

? for any single character

*** Substitutes for zero or more characters.** Can be used in truncation and for multiple characters. If used in a pathname, it cannot replace a forward slash (/). Use ***** for all possible alternative spellings and an unlimited number of characters within a name.

For example, **h*ophilia** substitutes for all names containing **h**+**<any character or number of characters>**+**ophilia**, such as haemophilia, hemophilia, or h.123ophelia; **behavi*r** substitutes for all names containing **behavi**+**<any character or number of characters>**+**r**, such as behaviour, behavior, or behavi123.zr; **patent*** substitutes for only all names containing **patent**+**<a character or any number of characters>**, such as patents, patentable, patented, patent123, and so on; **patent*.jpg** substitutes for only all names containing **patent**+**<a character or any number of characters>**+**.jpg**, such as patents.jpg, patentable.jpg, patented.jpg, patent123.jpg, etc; ***.jpg** substitutes for only all names containing **<any character or set of characters>**+**.jpg**.

? Substitutes for any single character and can be combined to denote multiple characters. If used in a pathname, it cannot replace a forward slash (/). Use **?** for specific alternative spellings. **?** substitutes for a single character; **??** substitutes for two characters; **???** substitutes for three characters, and so on. Only names with characters equal to the number of ? used are processed. For example, **cell?** substitutes for all names containing **cell** +**<one additional character>**.

For example, cells and cello but not cell. You can use ? within or at the end of a phrase. For example, **.xl?** substitutes for only names containing **.xl**+**<a third character>**, such as .xls, . xlr, and so on; **wom?n** substitutes for only names containing **wom**+**<a third character>**+**n**, such as woman or women; **carbon fib??** substitutes for only names containing **carbon fib**+ **<two characters>**, such as carbon fiber or carbon fibre.

For a full list and detailed coverage of everything you can do using wildcards, see the Advanced Wildcard Functionality, Content Searching Wildcards section.

- Enter a word or phrase that you want used as a criteria for processing.

Time

This option enables you to select files based on the time and date that they were stored or accessed on the host computer. Use the pull-down controls to select one of several options. You can process files that have been stored or accessed before or after a specific interval of time or date and time that you designate.

Select one of the options:

- Process files relative to a specific time and date

  - Select one of the options that includes a specific time and date (such as "Accessed in after *HH:MM AM* on *Day)*. The clock icon , the calendar icon , and the Accessed/Stored pull-down list are activated.

- Select **Accessed** or **Stored**. The text in the **Time** pull-down list changes to reflect your selection.
- Select the clock icon to launch Time 388 window, and then enter a time. The time you enter is displayed in the **Time** pull-down list.
- Select the calendar icon to launch Date 386 window, and then enter a date. The date you enter is displayed in the **Time** pull-down list.

Process files relative to when they were last accessed or stored

- Select one of the options that includes an interval of time (such as "Accessed in the past *x*"). The clock icon and Accessed/Modified icon are activated.
- Select **Accessed** or **Stored**. The text in the **Time** pull-down list changes to reflect your selection.
- Select the clock icon to launch the Period of Time 387 window, and then enter a period of time in terms of years, months, days, hours, minutes, AND/OR seconds. The period of time you enter is displayed in the pull-down list.

File Size

Refine your file selection criteria further by specifying a minimum or maximum file size associated with the policy.

If you enter a file size in the text box and select **Minimum file size**, the policy manipulates only files that are larger than the size you have specified. If you enter a number and select **Maximum file size**, the policy manipulates only files that are smaller than the size specified.

- If you want data to be processed according to maximum or minimum files size, enter the files size, select the unit of measurement (bytes, KB, MB, GB), and then select **Maximum** or **Minimum**.

Watermark

The Buffalo Surveillance Server enables you to set **High** and **Low** watermarks. Watermarks modify when data should be processed, as a policy runs, in relation to the percentage of available space on source media. If a high watermark is greater than 0 (zero), data is processed only when the percentage of used space on the source media is greater than the entered value. In other words, when a high watermark is greater than 0 (zero), if a scheduled policy runs, data is transferred only when the amount of data on the source exceeds the high watermark. When this happens, data processing will continue until the source media is emptied to the level indicated by the Low watermark. In short, processing begins when a policy executes and the amount of data on the source media exceeds the high watermark; and processing stops when the amount of data on the source media reaches the low watermark.

- Enter a **High** watermark to limit processing to until after the level of data on the source media has exceeded the high watermark. And/or, enter a **Low** watermark to enable the policy to stop processing data when the media's capacity has reached the low watermark level.

Files and Directories to Include/Exclude

Once you have denoted the files and directories you want to process, you can further refine your session with file and directory filters. You can use Include and Exclude filters at the file level and the directory level. You can create Exclude filters that exclude specific files and/or directories from the job and Include filters that include only specific files and/or directories in the job.

Both file and directory filters work similarly, the difference being that file filters work at the file level and directory filters work at the directory level. File and Directory filters support the use of wildcards. See **Wildcard Operators** below and Advanced Wildcard Functionality for details on how to use wildcards in file and directory filters.

Rules for File Filters and Directory Filters

File filters and directory filters operate on filenames and directory names respectively. When a policy features both file and directory filters, both types of filters are employed. Although file filters and directory filters can complement each other, the Buffalo Surveillance Server applies file filters discretely from directory filters, first processing all of the directory filters and then processing all of the file filters.

When exclude filters are used, there is an implied "include all" at the end of the list of exclude filters. This means that everything will be included in the job that is not explicitly excluded. When only include filters are used, there is an implied "exclude all" at the end of the list of include filters. This means that only the files and file types denoted by an include filter will be included in jobs.

Filters process exactly what you enter. For example, if you create an include filter for **.doc**, the Buffalo Surveillance Server will process files that are literally named **.doc**. If you want to process all files that are of a .doc type, your filter would include a wildcard: ***.doc**.

File Filters

If a file filter has no pathname delimiters, the Buffalo Surveillance Server matches the pattern against only the last leaf of the candidate pathname, which is the filename itself. If the file filter has pathname delimiters, the Buffalo Surveillance Server matches the pattern against the entire pathname, including the filename.

File filters are read from the top down. For example, if you have an exclude file filter that excludes all .jpg files followed by a filter that includes all **.jpg** files, **.jpg** files will be excluded.

Directory Filters

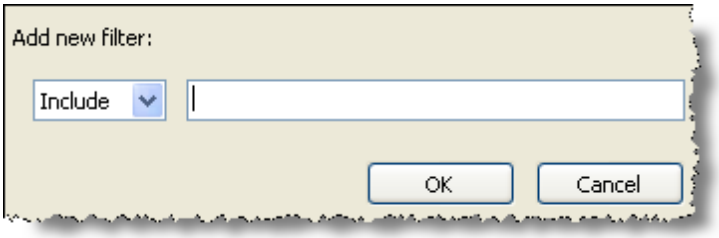
If a directory filter has no pathname delimiters, the Buffalo Surveillance Server tries matching the pattern against each leaf of the pathname separately, looking for the first match. If a directory filter has pathname delimiters, the Buffalo Surveillance Server matches the pattern against the entire pathname.

Directory filters are read from the top down. For example, if you have an exclude directory filter that excludes all folders named **Pictures** followed by a filter that includes **Pictures/2003Convention**, the first filter will take precedence and **Pictures/2003Convention** will not be included.

Create or Delete File Filters and Directory Filters

- Decide whether you want to first create file filters or directory filters. File filters will enable you to include or exclude particular files by file name or file type. Directory filters enable you to include or exclude directories and their contents in their entirety, including sub-directories and their contents. You can use file and directory filters simultaneously.

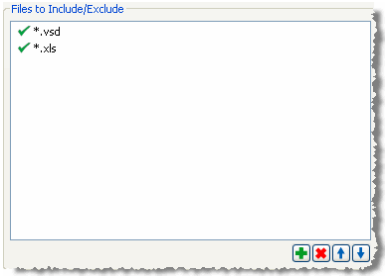
- To **create a filter**, select beneath **Files to Include/Exclude** or **Directories to Include/Exclude**, depending on whether you want to create a file or directory filter. The **Add Filter** window will appear:



- Select a filter type. Use **Include** to ensure the inclusion of particular files, directories, and file types. Use **Exclude** to exclude particular files, directories, and file types.

- Enter the filter. See the examples below for details.

- Click **[OK]**. If you were to enter ***.vsd** and then ***.xls**, the File to Include/Exclude text box would appear as follows. Include filters are preceded by ✔; exclude filters, ✘:



To determine which filters are given priority, you can move them up or down by using and respectively.

When entering pathnames or pathname searching patterns, only the forward slash (/) may be used as a pathname delimiter. If you use a backslash (\), as is customary on some platforms, you may get unexpected results.

- To **delete a filter**, simply select the filter by single clicking it, and then click .

Examples of File Filters and Directory Filters

Suppose you have a directory that contains several different files types and you want to process all of the files in the directory except **.jpg** files. To do this, you can create an exclude filter for files with a .jpg extension: ✘ *.jpg. In this example, ✘ denotes "exclude"; ***** (asterisk) is the wildcard symbol for "all"; **.jpg** is the file extension that is subject to the prefixed symbols.

In the table below, the column on the left lists all of the files in a hypothetical directory. The column in the center shows the filter that will be applied. The column on the right shows which files will actually be processed. Notice that none of the **.jpg** files are processed.

Files in specified directory	Filter	Files that are processed
Elevator design 12502.vsd	*.jpg	Elevator design 12502.vsd
Elevator design rev 20502.vsd		Elevator design rev 20502.vsd
Elevator design rev 21502.vsd		Elevator design rev 21502.vsd
Part345X.xls		Part345X.xls
Part236.xls		Part236.xls
Part 532.xls		Part 532.xls
Ref-guide rev21502.doc		Ref-guide rev21502.doc
Ref-guide rev21802.doc		Ref-guide rev21802.doc
Install guide 21502.ind		Install guide 21502.ind
Illustration 532.psd		Illustration 532.psd
Illustration 236.psd		Illustration 236.psd
Vacation 1.jpg		
Vacation 2.jpg		
Vacation 3.jpg		

Filter strings may contain a variety of wildcard symbols, making the Information Repository very flexible. You can use several filters together to create almost any include/exclude combination.

Using the same file set as an example, the only files that will be processed in the following example are the **.vsd** and **.xls** files:

Files in specified directory	Filter	Files that are processed
Elevator design 12502.vsd	✔ *.vsd ✔ *.xls	Elevator design 12502.vsd
Elevator design rev 20502.vsd		Elevator design rev 20502.vsd
Elevator design rev 21502.vsd		Elevator design rev 21502.vsd
Part345X.xls		Part345X.xls
Part236.xls		Part236.xls
Part 532.xls		Part 532.xls
Ref-guide rev21502.doc		
Ref-guide rev21802.doc		
Install guide 21502.ind		
Illustration 532.psd		
Illustration 236.psd		
Vacation 1.jpg		
Vacation 2.jpg		
Vacation 3.jpg		

Basic Wildcard Operators for File and Directory Filters

File and directory filters operate on filenames and directory names respectively. The Buffalo Surveillance Server supports the following wildcards with case sensitive alpha characters in file and directory filters:

***** for zero or more of any character

? for any single character

*** Substitutes for zero or more characters.** Can be used in truncation and for multiple characters. If used in a pathname, it cannot replace a forward slash (/). Use ***** for all possible alternative spellings and an unlimited number of characters within a name.

For example, **h*ophilia** substitutes for all names containing **h**+**<any character or number of characters>**+**ophilia**, such as haemophilia, hemophilia, or h.123ophelia; **behavi*r** substitutes for all names containing **behavi**+**<any character or number of characters>**+**r**, such as behaviour, behavior, or behavi123.zr; **patent*** substitutes for only all names containing **patent**+**<a character or any number of characters>**, such as patents, patentable, patented, patent123, and so on; **patent*.jpg** substitutes for only all names containing **patent**+**<a character or any number of characters>**+**.jpg**, such as patents.jpg, patentable.jpg, patented.jpg, patent123.jpg, etc; ***.jpg** substitutes for only all names containing **<any character or set of characters>**+**.jpg**.

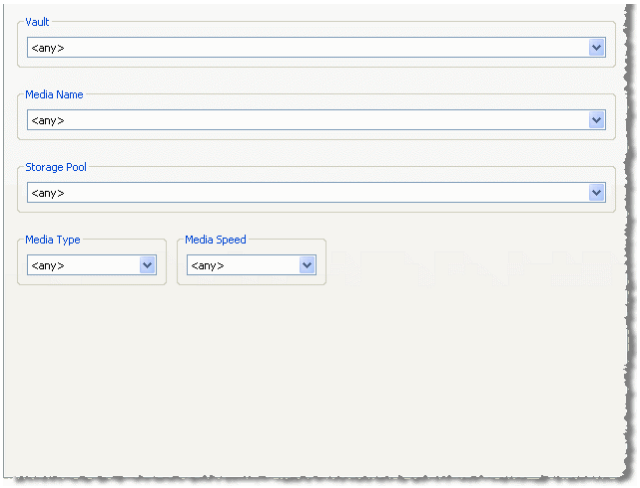
? Substitutes for any single character and can be combined to denote multiple characters. If used in a pathname, it cannot replace a forward slash (/). Use **?** for specific alternative spellings. **?** substitutes for a single character; **??** substitutes for two characters; **???** substitutes for three characters, and so on. Only names with characters equal to the number of ? used are processed. For example, **cell?** substitutes for all names containing **cell** +**<one additional character>**.

For example, cells and cello but not cell. You can use ? within or at the end of a phrase. For example, **.xl?** substitutes for only names containing **.xl**+**<a third character>**, such as .xls, . xlr, and so on; **wom?n** substitutes for only names containing **wom**+**<a third character>**+**n**, such as woman or women; **carbon fib??** substitutes for only names containing **carbon fib**+ **<two characters>**, such as carbon fiber or carbon fibre.

See Advanced Wildcard Functionality for a complete list of and more complete information about wildcards.

Destination Tab: Define Data Destinations

After you have defined your policy criteria, use the Destination tab to define criteria to determine in what Vaults, media, and/or storage pools your data will be stored. Read this section before you set Vault, Media Name, Storage Pool, Media Type, and Media Speed parameters.



If you leave any field set to the default (**<any>**), the Buffalo Surveillance Server will use all of the parameters for the given field in the Information Repository. For example, if you leave Vault set to <any>, the Buffalo Surveillance Server will use all of the Vaults in your Information Repository, choosing the one with the most free space that is most readily available for any given job.

If you wish to create a new name for any parameter, you may not use the following names already used by the Information Repository: unnamed, any, new entry.

Only <any>, <unnamed>, <new entry> and/or the names of Vaults, storage pools, media, media types, and media speeds that are already implemented in the Information Repository appear in the pull-down lists unless you have added new parameters. If you plan to add new Vaults, media, or storage pools to the Information Repository at a later time and know the name(s) that you will assign to these resources, you can add the name(s) of these resources manually before actually implementing them. They will be listed beneath <any> in the given field. **However, to minimize the risk of error, it is best to choose only media that appears in the pull-down list**. There are several options for doing this:

- Leave all of the fields set to the default (<any>) and let Buffalo Surveillance Server take care of everything.

  The Buffalo Surveillance Server will choose the most accessible Vault and media with the most free space.

- Select a parameter from the field that best meets the data's requirements, and let Buffalo Surveillance Server take care of the rest.

  If, for example, you select a Media Speed of S8, the Buffalo Surveillance Server will write only to media that runs at the speed associated with S8. Likewise, if you select only a Storage Pool or Media Name, the Buffalo Surveillance Server will send the files to only the storage pool or media that you select. Similarly, if you select only a Vault, the Buffalo Surveillance Server will choose the best unit of media within the Vault and the data will not have Storage Pool metadata. In general, the Buffalo Surveillance Server will use the most readily available Vault and/or media with the most available free space.

- Select a parameter from the field that best meets the data's requirements, and then select available parameters from the remaining fields.

  When you select a parameter from Vault, Media Name, or Storage Pool, the Buffalo Surveillance Server will limit the options available in the remaining fields to only those commensurate with the parameter you have selected.

  You can assign several units of media to a single storage pool. (See Prepare Media, Storage Pool 237 for more information about Storage Pools.) To return the tab to a state where you can choose any parameter from any field, select <any> in the Vault field.

- Create a new entry or new entries for Vault, Media Name, and/or Storage Pool.

- Use the pull-down control for Vault, Media Name, and/or Storage Pool, and then select <new entry>. A window will appear into which you can enter the new name for the field that you have select. Enter the new Vault, Media Name, or Storage Pool, and then click **[OK]**. The new entry will appear in field's pull-down list.

This method is recommended only for special circumstances. If you try to run a job with a Vault or media that is not actually running in the Information Repository, the job will fail.

<any> will divide the names of Vaults, media, and storage pools already implemented from the names that you have added for Vaults, media, and storage pools that have not yet been implemented. In other words, the names above **<any>** represent Vaults, media, or storage pools actually running in your Information Repository. The names below the divider are the ones that you have entered that do not yet have hardware implemented in the Information Repository. These will not be saved if they are not selected when you save the policy.

Limitations to adding a new name for Vault, Media Name, or Storage Pool:

- If you enter a new name for a Vault, Media Name and Storage Pool options will be limited to <any> and <new entry>.
- New entries in Media Name or Storage Pool do not limit options in the remaining fields.
- If you add a wildcard (for example, Ac*), the wildcard will appear beneath <any> even thought there may be Vaults in the Information Repository the wildcard comprises.

When entering pathnames or pathname searching patterns, only the forward slash (/) may be used as a pathname delimiter. If you use a backslash (\), as is customary on some platforms, you may get unexpected results.

Wildcard Operators for Vault, Media Name, and Storage Pool

The Buffalo Surveillance Server supports the following wildcards with case sensitive alpha characters in the **Vault**, **Media Name**, and **Storage Pool** fields:

***** for zero or more of any character

? for any single character

*** Substitutes for zero or more characters.** Can be used in truncation and for multiple characters. If used in a pathname, it cannot replace a forward slash (/). Use ***** for all possible alternative spellings and an unlimited number of characters within a name.

For example, **h*ophilia** substitutes for all names containing **h**+**<any character or number of characters>**+**ophilia**, such as haemophilia, hemophilia, or h.123ophelia; **behavi*r** substitutes for all names containing **behavi**+**<any character or number of characters>**+**r**, such as behaviour, behavior, or behavi123.zr; **patent*** substitutes for only all names containing **patent**+**<a character or any number of characters>**, such as patents, patentable, patented, patent123, and so on; **patent*.jpg** substitutes for only all names containing **patent**+**<a character or any number of characters>**+**.jpg**, such as patents.jpg, patentable.jpg, patented.jpg, patent123.jpg, etc; ***.jpg** substitutes for only all names containing **<any character or set of characters>**+**.jpg**.

? Substitutes for any single character and can be combined to denote multiple characters. If used in a pathname, it cannot replace a forward slash (/). Use **?** for specific alternative spellings. **?** substitutes for a single character; **??** substitutes for two characters; **???** substitutes for three characters, and so on. Only names with characters equal to the number of ? used are processed. For example, **cell?** substitutes for all names containing **cell** +**<one additional character>**.

For example, cells and cello but not cell. You can use ? within or at the end of a phrase. For example, **.xl?** substitutes for only names containing **.xl**+**<a third character>**, such as .xls, . xlr, and so on; **wom?n** substitutes for only names containing **wom**+**<a third character>**+**n**, such as woman or women; **carbon fib??** substitutes for only names containing **carbon fib**+ **<two characters>**, such as carbon fiber or carbon fibre.

In the **Vault**, **Media Name**, or **Storage Pool** fields, substitute the appropriate wildcard character for any letter or letters. For example, lets say you have four Vaults:

- Accounting
- Administrative
- Development
- Sarbanes-Oxley

And, you want to migrate data only to Vaults named "Accounting" and "Actuarial". In the Vault field, you would enter *Ac**, and data will be stored only to Vaults beginning with *Ac*, regardless of what comes after *c*. The same type of scenario would pertain if you wanted to use wildcards in the Media Name field.

When you use a wildcard in the Vault field, only media and storage pools associated with the selected Vault are displayed in the Media Name and Storage Pool fields. For example, if you enter *j** in the Vault field, only Media and Storage Pools in Vaults beginning with *j* will appear in the Media Name and Storage Pool fields. The functionality is similar for Media Name. For example, if you enter *Ni**, only storage pools beginning with *Ni* will be displayed in the Storage Pool field.

See Advanced Wildcard Functionality for a complete list of and more complete information about wildcards.

Destination Fields

Vault

Vaults are the basic units of storage in your Information Repository.

- Click the pull-down control arrow and, from the list that appears, select a Vault; or, select **<new entry>** to add a new Vault name. When you select a Vault, the Buffalo Surveillance Server will populate the Media Name pull-down menu with the media that it finds on the given Vault.

If you enter a new name for a Vault, the Media Name and Storage Pool options will be limited to <any> or <unnamed> and <new entry>.

Media Name

Media Name refers to the names of individual units of media in the Vaults of your Information Repository.

- Click the pull-down control arrow and, from the list that appears, select the media; or, select **<new entry>** to add a new media name. The Buffalo Surveillance Server will then automatically look for the Storage Pools that comprise the media. If the Buffalo Surveillance Server cannot find storage pools that comprise the media that you have selected, the Storage Pool field will display <any>.

Storage Pool

Storage Pools are groupings of media utilized for a particular purpose. A typical example of storage pooling is the utilization of several units of media for a single policy. For example, if you want to have the "Monday night backup" write to several units of media, you would use a "Monday night backup" storage pool and assign to it every unit of media that you want to use for that purpose. (See **Prepare Media, Storage Pool** for information about creating storage pools using Vault Admin.)

- Click the pull-down control arrow and, from the list that appears, select a storage pool; or, select **<new entry>** to add a new storage pool name.

Media Type

You can determine the types of media your policy will use by specifying a media type. For example, if "Hdisk" is an option and you select it, only Hdisk media will be utilized. This setting is useful for processing data of lower importance or less rigorous recovery time objectives.

You can set either Media Type or Media Speed but not both.

Although only Hdisk media will be used, the names displayed in the other fields will not change.

- Click the pull-down control arrow under the **Media Type** label, and select the media type. Only the media types that are available for the parameters you have chosen in the Vault, Media Name, or Storage Pool fields will be displayed. If no Vault, media, or storage pool is chosen, only the media types from media available within the Information Repository will be displayed.

Media Speed

Storage technologies supported by the Buffalo Surveillance Server are categorized by their performance. The Media Speed setting is useful for processing data of lower importance or less rigorous recovery time objectives. Media Speed enables you to specify what media will be used based on media performance. For example, if "S4" is an option and you select it, only S4 media will be utilized.

Although only S4 media will be used, the names displayed in the other fields will not change.

Hard disk is considered a high performance media and is assigned a high rating (S8). Slower tape technologies are lower performance and are assigned a lower rating (S0). **You can set either Media Type or Media Speed but not both**.

- Click the pull-down control arrow under the **Media Speed** label, and then select a performance rating. The Buffalo Surveillance Server will display only the media speeds that are available for the parameters you have chosen in the Vault, Media Name, or Storage Pool fields. If no Vault, media, or storage pool is chosen, only the speeds from media available within the Information Repository will be displayed.

Scheduling Tab: Define When Jobs Should Run

After you have set destination criteria, use the Scheduling tab to define when jobs will run.

You can set scheduling parameters to be very narrow or broad. For example, you can define schedules that run jobs on a daily or weekly basis, setting a few parameters and letting the Buffalo Surveillance Server take care of many of the other details. Or, you can be very specific, defining exact dates and times for jobs to run.

As soon as you save a policy, the schedule that you have created is implemented — granted all of the other parameters are acceptable. So, if you schedule a job to run at intervals of, say, 2 hours and leave all other values set to the default, a job will execute as soon as you click **Save**, and the subsequent jobs will run at two hour intervals.

Because Data Service policies effect the entire information repository, new Data Service policies are not scheduled to run.

When Should the Job Run?

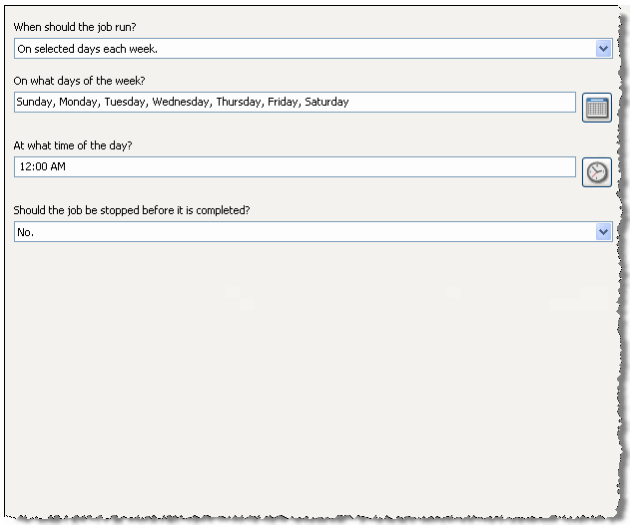
The option that you choose defines the mode in which jobs will run and controls which options will appear in the rest of the scheduling tab. **When should the job run?** contains the following options:

- **Option 1: On selected days each week**
- **Option 2: Repeatedly at a defined interval**
- **Option 3: On specific dates and times**

▸ Select an option from the **When should the job run** pull-down list to schedule recurring processes.

▣ Option 1: On selected days each week

This option enables you to schedule jobs that run on particular days at specific times. When you select this option, the scheduling tab will look as follows:


When should the job run?
On selected days each week.
On what days of the week?
Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday
At what time of the day?
12:00 AM
Should the job be stopped before it is completed?
No.

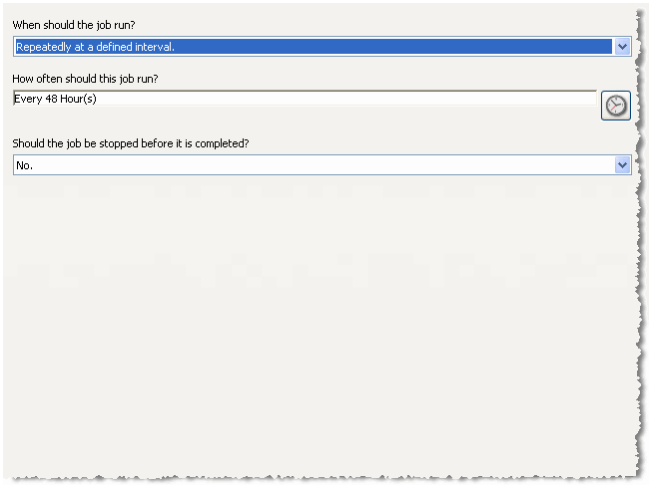
▸ Adjacent to the **On what days of the week** text box, click to set the days of the week on which you want the job to run. The Days 386 window will appear. Select the days you want jobs to run.

▸ Adjacent to the **At what time of the day** text box, click to set the specific time of day at which you want the job to run. The Time 388 window will appear. Select a start time.

- Determine whether the job should be stopped before it is completed. Set a job to stop before it is completed if another process will otherwise conflict with the Buffalo Surveillance Server job. If you select **Yes**, the Duration 387 window will appear.

Option 2: Repeatedly at a defined interval

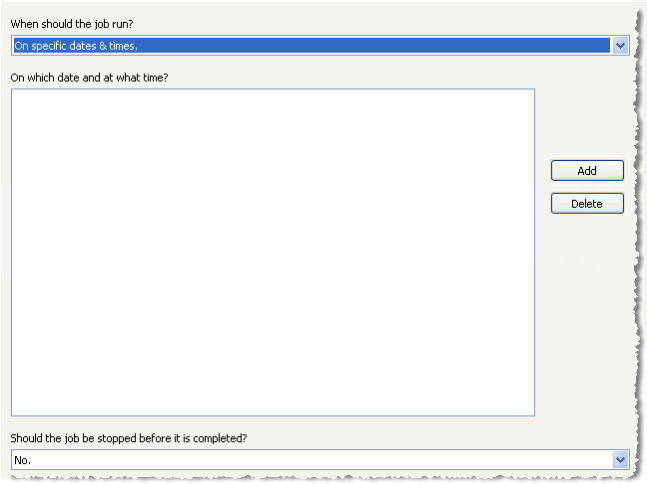
This option enables you to create jobs that will run repeatedly, at the interval that you set, for as long as the policy is active. To stop a policy that has been set to run repeatedly, you must deactivate, change, or delete the policy. When you select this option, the scheduling tab will look as follows:


When should the job run?
Repeatedly at a defined interval.
How often should this job run?
Every 48 Hour(s)
Should the job be stopped before it is completed?
No.

- Adjacent to the **How often should this job run** text box, click to set the interval at which you want the job to run. The Time Interval 388 window will appear. Select an interval.
- Determine whether the job should be stopped before it is completed. Set a job to stop before it is completed if another process will otherwise conflict with the Buffalo Surveillance Server job. If you select **Yes**, the Duration 387 window will appear.

Option 3: On specific dates and times

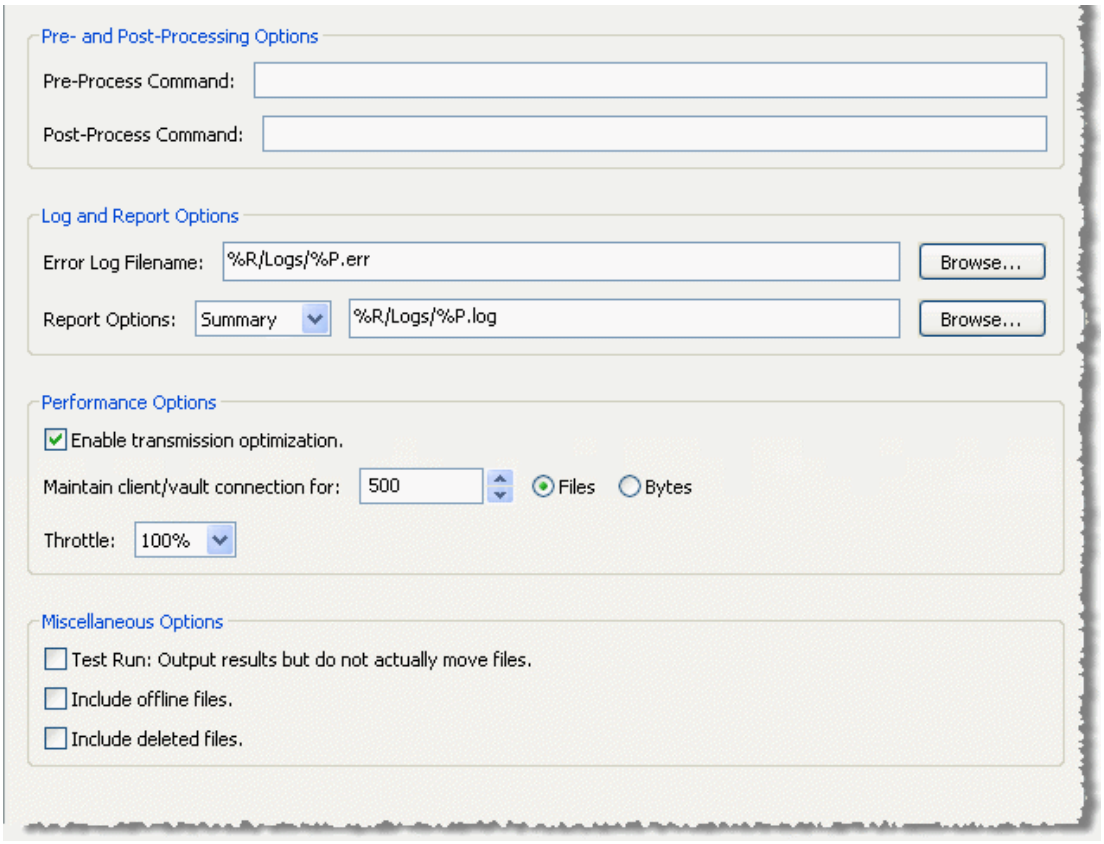
This option enables you to create jobs that will run on specific dates and times. You can add as many jobs as you wish. When you select this option, the scheduling tab will look as follows:


When should the job run?
On specific dates & times.
On which date and at what time?
Add
Delete
Should the job be stopped before it is completed?
No.

- **To Add scheduled run Dates and Times**, click **[Add]** to add dates and times at which the job will run. First the Date 386 window will appear. Select a date. After you select a date, the Time 388 window will appear. Select a time.
- **To Delete scheduled run dates and times**, select date and time settings, and then click **[Delete]** to remove the setting.
- **To Edit scheduled run dates and times**, delete the entry that you want to change, and then Add a new run date and time.
- Determine whether the job should be stopped before it is completed. Set a job to stop before it is completed if another process will otherwise conflict with the Buffalo Surveillance Server job. If you select **Yes**, the Duration 387 window will appear.

Advanced Tab: Set Advanced Data Service Options

After you have defined a schedule, there are several options under Data Service Policies's Advanced tab that enable you to further define how your jobs operate.



- Select the options below that you need to configure the policy as you wish.

Pre- & Post-Processing Commands

Use the pre- and post-processing commands to execute commands before and after each session. You can also enter commands to send process completion notification emails.

- Type your pre- and/or post-processing command strings in the appropriate text boxes. Command strings can be pointers to executable files with arguments, pointers to shell scripts, or a command string that the local processor is equipped to accept.

You can use the following variables in pre- and post-processing commands:

Variable	Description
%P or %Pn	Policy Name
%H or %Hn	Host Name
%D	Date (yyyy:mm:dd)
%Dy	Year
%Dm	Month
%Dd	Day
%T	Time (hh:mm)
%Th	Hour
%Tm	Minute
%Ts	Second
%R or %Rn	Root Pathname. Valid only at the beginning of a string.
%Ne	Number of errors
%Nr	Number of retries
%Nb	Number of bytes written
%Nf%	Number for files written

Error-Log Filename

The Buffalo Surveillance Server creates an error log file whenever errors are encountered during a job. Use it to assist you when troubleshooting problems that arise in the job. The Error Log Filename text box can include literal file names or a combination of file name field variables (see File Name Field Variables below) that will generate filenames for logs.

- In the **Error Log Filename** text box, leave the default variables in place; or, type in the file name that you want to use, including an extension; or, type in a variable name using **Filename Field Variables** (below).

Or,

- Use **[< Browse]** to define a new location and type in the file name that you want to use, including an extension.

Filename Field Variables

The file path can include a literal file name or a combination of variables that will generate filenames for reports. Variables make it much easier to distinguish between reports and to find particular reports.

For example, if you enter a path with a literal file name, C:/Program Files/BUFFALO/Logs/Job_Report.log, the system will generate the report destination folder "Logs" (if it does not already exist) and a report named "Job_Report.log". Similarly, if you enter a literal file name, say "DataErrors.log", a log named DataErrors.log will be generated.

On the other hand, if you enter a path with variables (separated by an underscore) for the file name, say %R/Logs/%P_from_%H_on_%D_at_%T, the system will generate the report destination folder "Logs" and a report named, "Monday Night Set_from_Rex<host name>_on_<date>_at_<time>" — where policy name, host name, date, and time are populated with the actual details from your Information Repository and job.

Following are the variables you can enter in the order you prefer. When using multiple variables, separate them from each other with an underscore (_).

Variable	Description
%P or %Pn	Policy Name
%H or %Hn	Host Name
%D	Date (yyyy:mm:dd)
%Dy	Year
%Dm	Month
%Dd	Day
%T	Time (hh:mm)
%Th	Hour
%Tm	Minute
%Ts	Second
%R or %Rn	Root Pathname. Valid only at the beginning of a string.

Report Options

The Buffalo Surveillance Server creates one of three report files when a job runs:

Type of Report	Contents
Summary	A header and summary report
Complete	Same as Summary but lists all files effected
Diagnostic	Complete but adds diagnostic-relevant information

- Click the pull-down menu to select the report option that you want. Use the **Summary** or **Complete** options on a normal basis and switch to **Diagnostics** if you run into problems.
- In the **Report Options** text box, leave the default variables in place, enter in the file name that you want to use, including an extension, or enter a variable name using **File Name Field Variables** (below).

Or,

- If you want to **overwrite an already existing log file**, use **[< Browse]** to find the file.

Filename Field Variables

The file path can include a literal file name or a combination of variables that will generate filenames for reports. Variables make it much easier to distinguish between reports and to find particular reports.

For example, if you enter a path with a literal file name, C:/Program Files/BUFFALO/Logs/Job_Report.log, the system will generate the report destination folder "Logs" (if it does not already exist) and a report named "Job_Report.log". Similarly, if you enter a literal file name, say "DataErrors.log", a log named DataErrors.log will be generated.

On the other hand, if you enter a path with variables (separated by an underscore) for the file name, say %R/Logs/%P_from_%H_on_%D_at_%T, the system will generate the report destination folder "Logs" and a report named, "Monday Night Set_from_Rex<host name>_on_<date>_at_<time>" — where policy name, host name, date, and time are populated with the actual details from your Information Repository and job.

Following are the variables you can enter in the order you prefer. When using multiple variables, separate them from each other with an underscore (_).

Variable	Description
%P or %Pn	Policy Name
%H or %Hn	Host Name
%D	Date (yyyy:mm:dd)
%Dy	Year
%Dm	Month
%Dd	Day
%T	Time (hh:mm)
%Th	Hour
%Tm	Minute
%Ts	Second
%R or %Rn	Root Pathname. Valid only at the beginning of a string.

Enable Transmission Optimization

This feature enables the client to constantly monitor its processes and select the network transmission protocol that best suits the files being processed. To get up to a 20% increase in performance, it is generally best to leave this option checked. However, depending on your particular network configuration, you may find that you can get better performance by un-checking this option. If your Information Repository seems to be slower than you would expect, run a few timed tests to see which setting will work best for your Information Repository.

- To enable this feature, check **Enable transmission optimization**.

Maintain Client/Vault Connection

Vault connection sharing determines how many files are sent from the source Vault to the destination Vault in a single connection. The higher the number of files or bytes transferred, the longer the connection between the source and destination Vault will be maintained. Access to a particular Vault resource (such as one drive of a multi-drive storage device) used by a process on one client will be restricted and inaccessible to other clients in the network for the duration of the connection.

To understand how this setting can affect a configuration, imagine an environment where a single Vault with a single tape drive is used to service several Buffalo Surveillance Server clients. When a client is configured with connection sharing set to 250 files, and several other clients are configured to start jobs at the same time, no client can connect until the first client is finished. Each client's connection to the server will lock out all other connections; all other clients will have to wait before processing files.

- To set the connection sharing value, enter a value number in the **Maintain Client/Vault Connection for** text box.
- Click the **Files** radio button or **Bytes** radio button depending on which you prefer. If you click Files, connection sharing will proceed based on the number of files transmitted; if you click bytes, based on the number of bytes.

Throttle

Throttling controls the speed at which files are sent to the Vault. Lower numbers reduce the bandwidth. Throttle values range from 1% to 100% of total available bandwidth.

The Buffalo Surveillance Server is designed to operate at the maximum performance of its host computer, the network environment, and the storage resources available. Sometimes, during normal working hours, running a job at peak performance will interfere with other network operations.

- To adjust throttling, click the **Throttle** pull-down menu, and select the percentage of maximum performance at which you want to operate the client on its host computer.

Test Run: Output Results but Do Not Actually Move Files

When you create a complex set of process parameters, including several filters and options, Test Run enables you to test the job before you execute a live job.

- Check **Test Run: Output results but do not actually move files**. When the process is scheduled to run, the Buffalo Surveillance Server will build the list of files that match all the criteria, but it will not actually move the files. Results will be output in the report you have defined in the Report Options fields.

Include Offline Files

Since the Buffalo Surveillance Server logs all of your stored files, you have the option of including even off-line files in jobs. However, if in your policy you denote files that are located on off-line media, the job will require more time as the system will enter a wait state whenever offline media is required.

- To include files that are on media that you have physically removed from a Vault, check **Include offline files**. A window will appear to request that you physically load the media.

Include Deleted Files

This feature enables you to process files that are marked as "deleted" in tape media. For some media types, such as magnetic tape, it is not possible to remove files that have been deleted or purged from the Information Repository. Due to its sequential write nature, a file marked for deletion may lie on the media between two files that remain viable. On such media, files that are eligible for removal are marked as deleted even though they remain on the media.

- Leave the checkbox unchecked to set the policy to ignore files that are marked for deletion. The "deleted" files will not be moved.

Or,

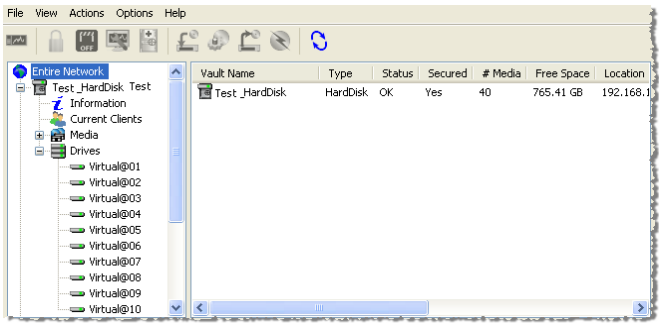
- Check the checkbox to set the policy to manipulate files marked as deleted.

Vault Admin Overview: Manage Vaults and Media

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

Vault Admin is used to manage Vaults and media in the Information Repository. Install and use it anywhere in the network.

Understanding Vault operation is key to managing an Information Repository. There are several facets to Vault management, most having to do with preparing and managing media. Vault Admin is designed to support the day-to-day tasks associated with managing Vaults. See Basic Media Concepts 207 to learn about storage media.



The Vault Admin main window is divided into two panes:

- The left pane displays the list of the tracked Vaults and views, like a common file manager application.
- The right pane displays details for the object selected.

All of the Vaults in the Information Repository are displayed under **Entire Network**. For each Vault, view the following details:

- Information 262
- Current Clients 263
- Media 264
- Drives 266

The type of information that is displayed in Media and Drives varies slightly depending on whether a hard disk or tape is selected.

▸ To update information view in Vault Admin, click the **Refresh** icon .

When executing Vault and media operations, the Buffalo Surveillance Server may appear as if it is not responding. However, when the Buffalo Surveillance Server completes its given task, it responds normally.

Rights

The following users have unlimited access to Vault resources:

- UNIX "root"
- Windows "local group administrators"
- Windows "backup operators"

How to Use Vault Admin - Overview

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

Actions and Options

Unlike other Buffalo Surveillance Server interfaces, in which you choose options tab by tab, most Vault Admin 204 functionality can be executed from either the Actions 208 and Options 259 menu or buttons on the toolbar.

Vault Admin Toolbar

Actions

From the **Actions** menu or tool bar of Vault Admin 204, do the following:

Icon	Action
	Launches Mini Vault Stats 338 for monitoring basic Vault activity.
	Secure/Unsecure Vault 209. To secure a Vault means to lock it so no further media can be added.
	Shut Down Vaults 210 (take a Vault off-line). Take Vaults off-line before performing any type of maintenance to the hardware where a Vault resides.

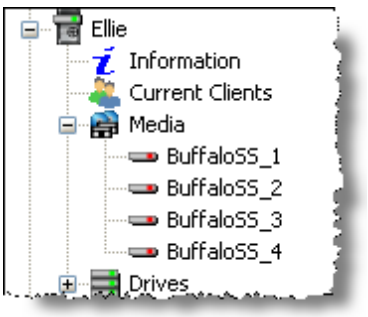
Icon	Action
	Change Vault's Properties 211. Define Vaults, devices, databases, licensing, diagnostics, notifications, logs, and security for Vaults.
	Run a Vault Checkup 234. Quickly check general Vault health.
	Load, Reload, or Re-index Media 250. Bring previously prepared media back on-line.
	Prepare Media 235 or Prepare Existing Media 243. Prepare new or previously used media.
	Unload Media 255. Media can be removed from the Information Repository or labeled as “off-line” and be tracked by the Information Repository.
	Erase Media 257. Remove all data from a unit of media without reformatting the media.
	Refresh. Update the view of the currently displayed data.

Options

From the **Options** menu of Vault Admin 204, you can set the Address Format 260 and Communications Timeouts 260 for Vaults.

Vault Details

The active Vaults in the network are represented in the left frame of the Vault Admin 204 main window.



- Click the plus box ⊞ in front of a Vault name to open the subcategories associated with the Vault and to activate the icons in the Vault Admin toolbar 205. Certain icons in the toolbar will be active only when a Vault, Media, or Drive is selected.

Advanced View

Some features within Vault Admin have an advanced view option that presents details about the item being queried.

- Select **View** > **Advanced** from the Vault Admin menu to activate this option.

Basic Media Concepts

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

Buffalo Surveillance Server Vaults use media to store all files that are protected and managed by the Information Repository. You use Vault Admin to manage media in your Information Repository. It is important to understand some basic concepts about media before the actual steps of media preparation and management are attempted.

Buffalo Surveillance Server managed media can be in a physical form, such as individual computer digital tape cartridges, or it can be in a virtual form, such as a portion of hard disk assigned for use by the Information Repository. The list of media that the Buffalo Surveillance Server can utilize is constantly being expanded, and every type of media has features that make it suitable for a particular purpose. For example, hard disk is a good medium to initially process files to because there is no latency associated with it. It is ready to accept data as it is sent from network clients, and it can service several clients at the same time.

Media is organized hierarchically:

- The highest level of the hierarchy is the Vault itself.
- Media units are the next level and they coincide with logical media units such as individual tapes or portions of hard disks.
- The volume level is lowest. Volumes are sections of media units. They can be as large as the media itself or as small as desired.

On some media, there can be one or several volumes on a unit. There can be one or more units of media in a Vault. There can also be multiple Vaults on a single host computer, depending on its performance and resources. The Buffalo Surveillance Server uses a concept called storage pools to describe one or more pieces of media that are linked together for a common use.

All Buffalo Surveillance Server managed media is configured with common elements including:

- Label
- Header

- Data Storage Area
- On-Media Catalog
- Physical (tape) Media and/or Hard Disk Media
- Virtual Media

Media Retention and Purging

Administrators can eliminate outdated data on media using any one of several methods. The various methods are NOT restricted to usage on hard disk based media only but can be used on all supported media, including tape and optical devices.

For hard disk Vaults, use Data Service Policies 160 to define file retention rules to remove duplicated data or to retain source data indefinitely (or for a pre-defined period of time). Furthermore, the same retention rules can be used even if files are never copied or moved. This allows data to be erased after a pre-defined period.

Using Vault Admin, you can erase media 257. Erasing allows the Buffalo Surveillance Server to overwrite erased files. When you erase tape media, the Buffalo Surveillance Server delays the actual event until just before the media is to be re-used. This enables you to manage many units of media without having to wait for the typically long delays associated with the loading and positioning of media. In cases where you need to ensure that an erase operation executes without delay, you can override the delay and execute format/erase 257 immediately.

Actions

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

From the **Actions** menu or tool bar of Vault Admin 204, do the following:

Icon	Action
	Launches Mini Vault Stats 338 for monitoring basic Vault activity.
	Secure/Unsecure Vault 209. To secure a Vault means to lock it so no further media can be added.
	Shut Down Vaults 210 (take a Vault off-line). Take Vaults off-line before performing any type of maintenance to the hardware where a Vault resides.

Icon	Action
	Change Vault's Properties 211. Define Vaults, devices, databases, licensing, diagnostics, notifications, logs, and security for Vaults.
	Run a Vault Checkup 234. Quickly check general Vault health.
	Load, Reload, or Re-index Media 250. Bring previously prepared media back on-line.
	Prepare Media 235 or Prepare Existing Media 243. Prepare new or previously used media.
	Unload Media 255. Media can be removed from the Information Repository or labeled as “off-line” and be tracked by the Information Repository.
	Erase Media 257. Remove all data from a unit of media without reformatting the media.
	Refresh. Update the view of the currently displayed data.

Secure or Unsecure Vault

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

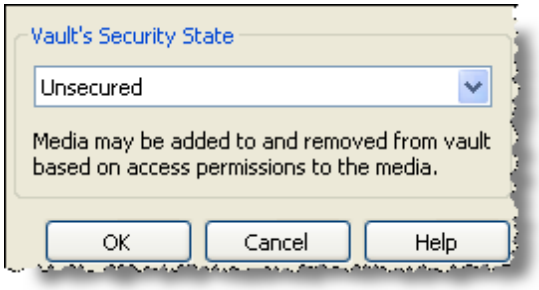
To ensure Information Repository protection, Vaults are normally run in a secured mode. When in a secured mode, a Vault's media cannot be manipulated. Media cannot be imported or exported, copied, reformatted, or even relabeled. In Vaults equipped with storage devices that can be locked via software, the front panel and all access panels are locked when the Vault is operating in secure mode.

Before any media operation can be performed, such as preparing media 235, a Vault must be unsecured.

Follow the steps below to secure or unsecure a Vault.

- In the left pane of the Vault Admin 204 window, select the Vault to secure or unsecure by highlighting its name:

- When the toolbar icons become active, click in the Vault Admin tool bar 205. The **Vault Security** window launches.



- Use the combo box menu and select either **Secured** or **Unsecured**.
- Click **OK** to complete the process.

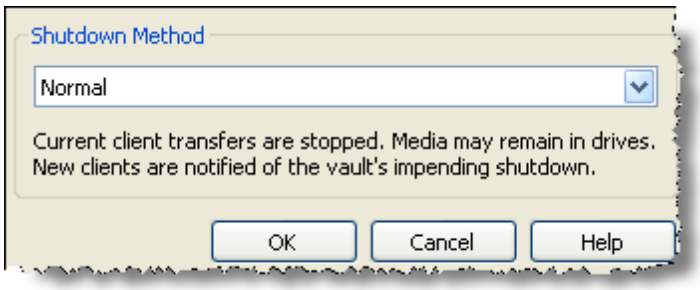
Shut Down or Restart Vault

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

Shut Down Vault enables you to shut down or restart a selected Vault. You must shut down a Vault before you modify its host computer. Follow the steps below to shut down or restart a Vault.

- In the left pane of the Vault Admin 204 window, select the Vault to restart or shut down by highlighting its name:

- Click in the Vault Admin toolbar 205. The **Shut Down Vault** window appears:



- Select an option from the **Shutdown Method** combo box. There are three ways to shut down a Vault and one way to restart a Vault:

Type of Shutdown	Description
Normal	Normal shutdown is the standard way to shut down a Vault. A Normal shutdown stops current client activity after the running transaction completes all database transactions and performs any cleanup activity required, but it does not remove media from the drive. A Vault restarted after a normal shutdown should not report errors.
Extended	Extended shutdown is the best way to shut down a Vault if it is going to be taken offline for an extended period of time. TheBuffalo Surveillance Server waits until running client processes are finished before closing connections to clients. Buffalo Surveillance Server then completes all database transactions, removes media from drives, and performs any required cleanup activity. An Extended shutdown is more time consuming than a Normal shutdown.
Restart	Restart executes a Normal shutdown and then restarts the selected Vault. Client activity stops after the running transaction completes all database transactions and performs any cleanup activity required, but does not remove media from the drive.
Emergency	Use only for emergencies! The emergency shutdown behaves as if removing power from the host computer. A Vault restarted after an emergency shutdown may report connection timeouts, incomplete database translations, and other items.

- Click **[OK]** to complete the process.

Manage Vault Properties

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

After Vault installation, use Vault Properties to change Vault settings. These include security, logs, notifications, diagnostics, memory allocation for devices, database optimization parameters, and licensing.

- Open the Vault Admin application. In the left pane of the Vault Admin 204 main window, select the Vault to modify.

- Click to launch the <Vault Name> Properties window, or right-click the Vault name and select **Properties**. The Properties window features several tabs; each responsible for some aspect of Vault functionality. It opens to the **General** tab.

- Select a tab from those listed below:

  - General 212 - Rename the Vault and view the Vault type and status information, including location, software version, and start time.

  - Device 213 - View SCSI information for Vaults as well as maximum files kept in a directory and maximum number of data streams. Also, change the amount of virtual memory used for each data stream cache for tape and hard disk Vaults.

  - Database 217 - View the database pathname. Also, change the time when the database is optimized, set the number of maximum open files, and set the amount maximum virtual memory used.

  - License 219 - Access your Host Id and view license summary, activate a product key, and change, delete or import a license file.

  - Security 222 - Define Vault access for users, groups, and domains.

  - Logs 226 - Activate activity logging, define an activity log pathname, set maximum log size, set what action to take when logs reach their maximum size, and define the error log pathname.

  - Notifications 229 - Set where events and email notifications are sent.

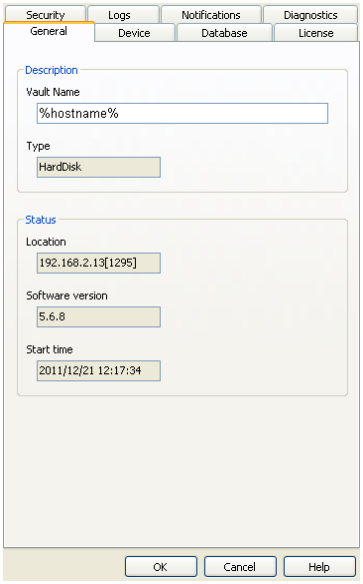
  - Diagnostics 231 - Define where output messages are sent, the type of messages sent, and the level of message detail.

General

Use the **General** tab to change the name of the selected Vault and view Vault type, location, software version, and start time.

- Open the Vault Admin application. In the left pane of the Vault Admin 204 main window, select the Vault to modify.

- Click to launch the <Vault Name> Properties window, or right-click the Vault name and select **Properties**. The Properties window features several tabs; each responsible for some aspect of Vault functionality. It opens to the **General** tab.



- To change the selected Vault's name, enter a new name in the **Vault Name** field.
- Click **[OK]**. The new Vault name is listed under **Entire Network** in the left frame of the main Vault Admin window 204.

The following fields can be set only when a Vault is installed. Subsequently, they are read only:

- **Type** indicates the type of Vault.
- **Location** indicates the IP address of the Vault device.
- **Software Version** indicates the version of the Buffalo Surveillance Server.
- **Start Time** indicates when the Vault was first started.

Device

Use the **Device** tab to change the selected Vault's storage connection resource settings. The values displayed depend on whether you selected a hard disk or tape Vault.

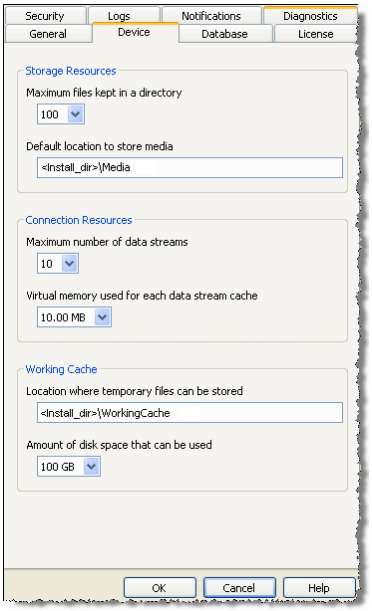
Follow the steps in the sections listed below to set up a hard disk or tape Vault.

- Hard Disk Vault 214
- Tape Vault 216

Hard Disk Vault

The **Device** tab enables you to define parameters for the selected hard disk Vault.

- Open the Vault Admin application. In the left pane of the Vault Admin 204 main window, select the Vault to modify.
- Click to launch the <Vault Name> Properties window, or right-click the Vault name and select **Properties**. The Properties window features several tabs; each responsible for some aspect of Vault functionality. It opens to the **General** tab.
- Select the **Device** tab.



- Select the values that you prefer for the Vault from the following:

Field	Meaning
Maximum files kept in a directory	Data is stored in files in the Vault. More files enable you store more data per unit of media, but more files also slow down Information Repository performance. Choose a value that meets but does not exceed your needs. The following table details the number of files that correlates with each value.

<table>
<tr><th>Field</th><th>Meaning</th></tr>
<tr><td></td><td>
<table>
<tr><th>Value</th><th>Number of Files</th></tr>
<tr><td>50</td><td>125 billion</td></tr>
<tr><td>100</td><td>250 billion</td></tr>
<tr><td>150</td><td>375 billion</td></tr>
<tr><td>200</td><td>500 billion</td></tr>
<tr><td>300</td><td>750 billion</td></tr>
<tr><td>400</td><td>1 trillion</td></tr>
<tr><td>500</td><td>125 trillion</td></tr>
</table>
</td></tr>
<tr><td>Default location to store media</td><td>"Default location" defines where, by default, media will be stored and managed. Wherever in Buffalo Surveillance Server there is an option to use a default location, Buffalo Surveillance Server will use the default location.</td></tr>
<tr><td>Maximum number of data streams</td><td>"Data streams" refers to how many connections can be made to a Vault simultaneously. Having several connections enables several clients to communicate with the Vault simultaneously, so the more streams you permit the greater the requirements for processing power.</td></tr>
<tr><td>Virtual memory used for each data stream cache</td><td>This setting defines how much virtual memory is set aside for incoming and outgoing data during file storage and retrieval. A larger cache may improve performance but will do so at the expense of using more virtual memory. The total amount of space used equals the number of data streams multiplied by the selected cache size. So, if you select 10 data streams and 10 MB of cache, the Vault will set aside 100 MB of total virtual memory for caching data. A selection of 10 MB is usually sufficient.</td></tr>
<tr><td>Location where temporary files can be stored</td><td>This setting enables you to define where the working cache will be located. The default location is '<install-dir>/WorkingCache'.

When Buffalo Surveillance Server is processing files, it sometimes creates temporary files. These enable Buffalo Surveillance Server to work more quickly and efficiently and are especially important when you are clipping video files. Temporary files are kept in the "working cache."</td></tr>
</table>

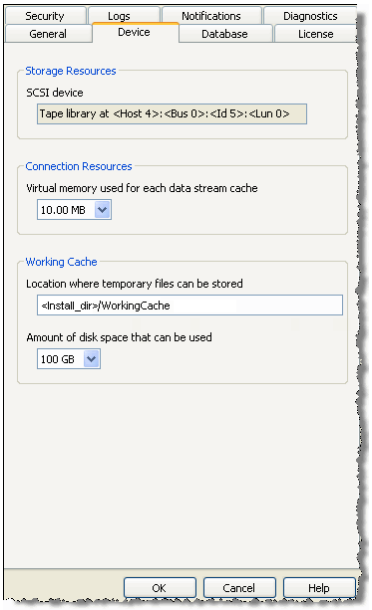
Field	Meaning
	The changes you make here will override the values you entered when you first added the Vault using the Add or Remove Vault Wizard 345.
Amount of disk space that can be used	This setting defines how much working cache space Buffalo Surveillance Server will be permitted to use for temporary files.

- Click **[OK]** to save the new settings.

Tape Vault

The **Device** tab enables you to define parameters for the selected tape Vault.

- Open the Vault Admin application. In the left pane of the Vault Admin 204 main window, select the Vault to modify.
- Click to launch the <Vault Name> Properties window, or right-click the Vault name and select **Properties**. The Properties window features several tabs; each responsible for some aspect of Vault functionality. It opens to the **General** tab.
- Select the **Device** tab.



On the **Device** tab for tape Vaults, only the amount of virtual memory used for each data stream cache can be changed.

SCSI device is read only. It indicates the hardware in use and where it is located in the network.

- Select the values that you prefer for the Vault from the following:

Field	Meaning
Virtual memory used for each data stream cache	This setting defines how much virtual memory is set aside for incoming and outgoing data during file storage and retrieval. A larger cache may improve performance but will do so at the expense of using more virtual memory. The total amount of space used equals the number of data streams multiplied by the selected cache size. So, if you select 10 data streams and 10 MB of cache, the Vault will set aside 100 MB of total virtual memory for caching data. A selection of 10 MB is usually sufficient.
Location where temporary files can be stored	This setting enables you to define where the working cache will be located. The default location is '<install-dir>/WorkingCache'. When Buffalo Surveillance Server is processing files, it sometimes creates temporary files. These enable Buffalo Surveillance Server to work more quickly and efficiently and are especially important when you are clipping video files. Temporary files are kept in the "working cache." The changes you make here will override the values you entered when you first added the Vault using the Add or Remove Vault Wizard 345.
Amount of disk space that can be used	This setting defines how much working cache space Buffalo Surveillance Server will be permitted to use for temporary files. The working cache should be large enough to hold multiple large video files. The default size is 100 GB.

- Click **[OK]** to save the new settings.

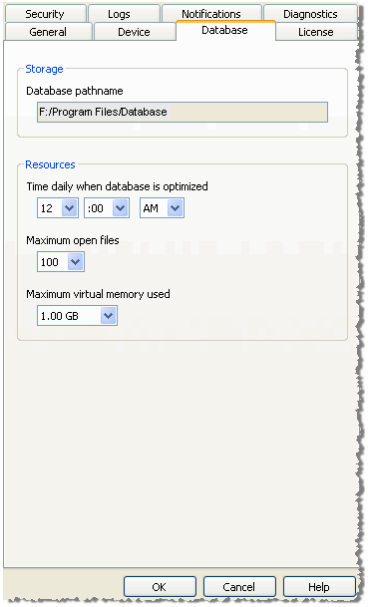
Database

Use the **Database** tab to change when the selected Vault is optimized, set the maximum number of files that can be open at a single time, and set the amount of virtual memory the selected Vault uses.

- Open the Vault Admin application. In the left pane of the Vault Admin 204 main window, select the Vault to modify.

- Click to launch the <Vault Name> Properties window, or right-click the Vault name and select **Properties**. The Properties window features several tabs; each responsible for some aspect of Vault functionality. It opens to the **General** tab.

- Select the **Database** tab.



- Select the values that you prefer for the Vault from the following:

Field	Meaning
Database pathname	This field can be defined only when installing a Vault. It indicates the location at which the database is stored on the host computer's hard disk.
Time daily when database is optimized	This option enables you to set how often the database will be optimized. To ensure that Buffalo Surveillance Server and your Information Repository continue to function optimally, the database for every Vault is optimized daily.
Maximum open files	This option enables you to limit how many files may be open simultaneously. Having more files open enables Buffalo Surveillance Server to search faster. However, more files require more Information Repository resources.

Field	Meaning
Maximum virtual memory used	This option enables you to limit how much virtual memory the database will use. For best Information Repository performance, choose a value that does not exceed 75% of the physical memory on the computer.

- Click **[OK]** to save the new settings.

License

Obtain a licensed product from Buffalo. You can purchase a licensed product online. For more information see Product Licensing 344.

From Vault Properties, use the **License** tab to manage Vault licenses.

- The **Summary** group displays your license totals for the selected Vault.
- The **Host Id** group displays the Vault Host Id. The Host Id information is used to activate your product key.
- The **Installed Licenses** group displays all the individual licenses assigned to a Vault. The license statistics shown are Serial #, Type, Capacity, Expiration, Product Type, and Platform Type. Click the **Add** button to open the Add License window where you can add a new license by activating a product key, or import a license file. Select an installed license from the group and then click the **Delete** button to remove the license from the Vault.

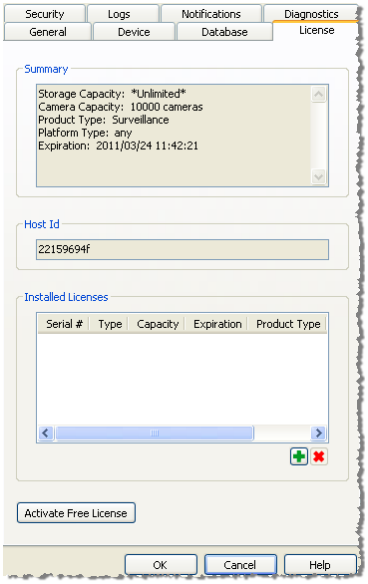
Once the **Add** or **Delete** button is clicked, the changes are immediate.

You can add the same license as many times as you like, but the Vault Admin just overwrites the license file so only one instance is displayed in the **Installed Licenses** group

Activate Free License

If your product comes with bundled licenses, and no licenses display in the **Installed Licenses** group, then an **Activate Free License** button displays enabled in the Vault Properties. Click this button to install and activate any free licenses in the bundle automatically without having to type in a product key. Once activated, they appear in the **Installed Licenses** group.

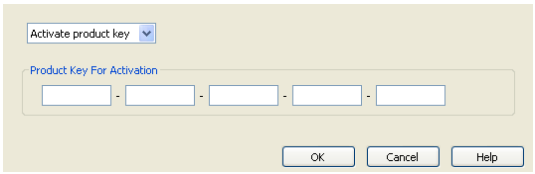
If you are having problems activating your license, visit the Buffalo website for manual activation.



Add license and activate product key - Connected to Internet

Once you have received your product key, and you are connected to the Internet, follow the steps below to activate your license.

- Open the Vault Admin application. In the left pane of the Vault Admin 204 main window, select the Vault to modify.
- Click to launch the <Vault Name> Properties window, or right-click the Vault name and select **Properties**. The Properties window features several tabs; each responsible for some aspect of Vault functionality. It opens to the **General** tab.
- Select the **License** tab.
- Click the **Add** button. When the Add window appears, select **Activate Product Key**, and type the product key into the required text box.

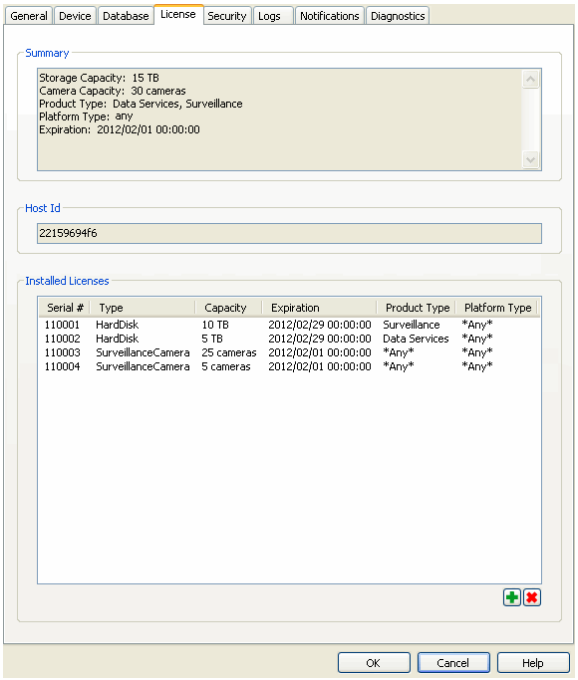


Add license and activate product key - Not connected to Internet

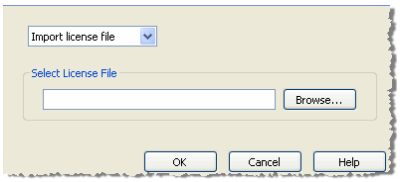
If you have received a product key, and are not connected to the internet, follow these steps:

- Find a computer with internet access.
- Go to Buffalo's website and locate the product key activation page.

- Type your Host Id, e-mail, and product key. The Host Id is located in Buffalo Surveillance Server, from the <Vault Name> Properties > **License** tab, as shown in the image below. The product will run for up to two hours regardless of license status, so you still have access to the Vault Admin. You may need to reboot your computer to initiate the product.



- A license file will be sent to you via e-mail.
- After receiving the license file, from <Vault Name> Properties > **License** tab, click the **Add** button.
- From the Add License window, select **Import License File**.
- Type, or click the **Browse** button to navigate to the received license file.
- Click **Ok** to complete manual activation.



If you are having problems activating your license, visit the Buffalo website for manual activation.

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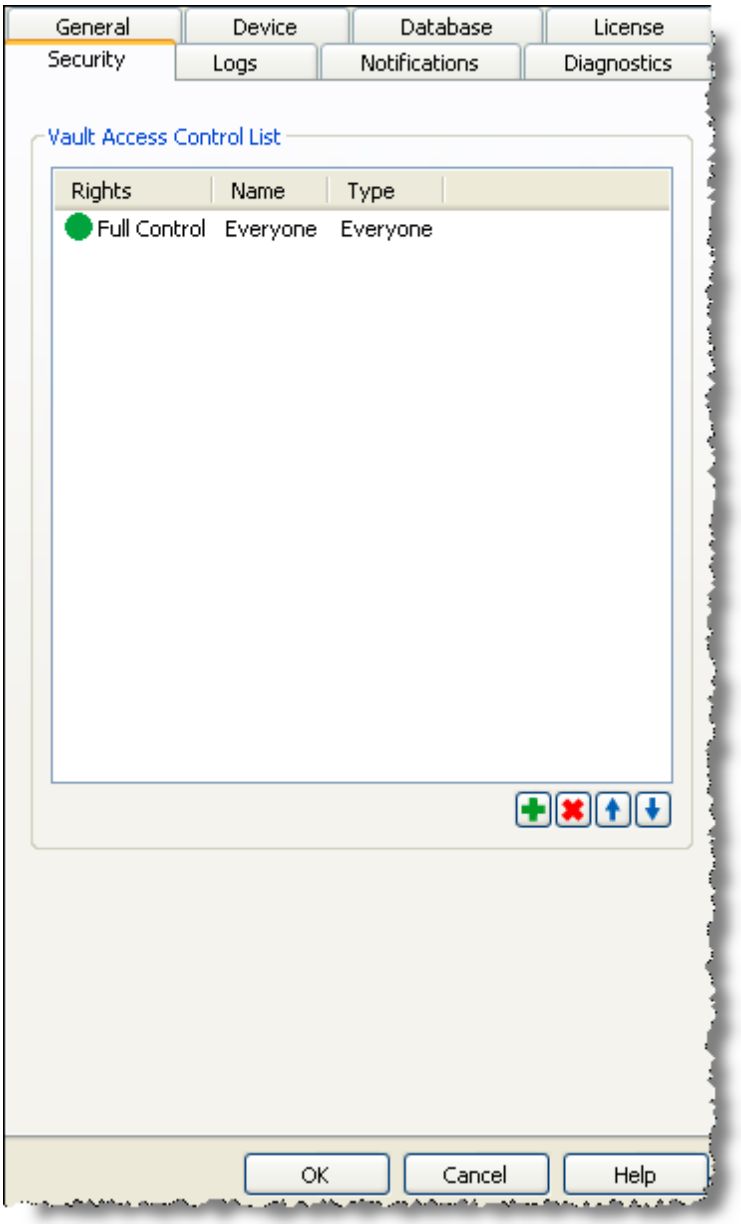
Security

Use the **Security** tab to add, change, and delete user, group, and domain rights for the selected Vault. Vault rights override media rights 238.

- Open the Vault Admin application. In the left pane of the Vault Admin 204 main window, select the Vault to modify.
- Click to launch the <Vault Name> Properties window, or right-click the Vault name and select **Properties**. The Properties window features several tabs; each responsible for some aspect of Vault functionality. It opens to the **General** tab.
- Select the **Security** tab.



The Security tab displays users, groups, and domains and the level of rights granted each:

- indicates full rights.
- indicates rights to store and retrieve data.
- indicates rights to retrieve (but not store) data.
- indicates no rights.

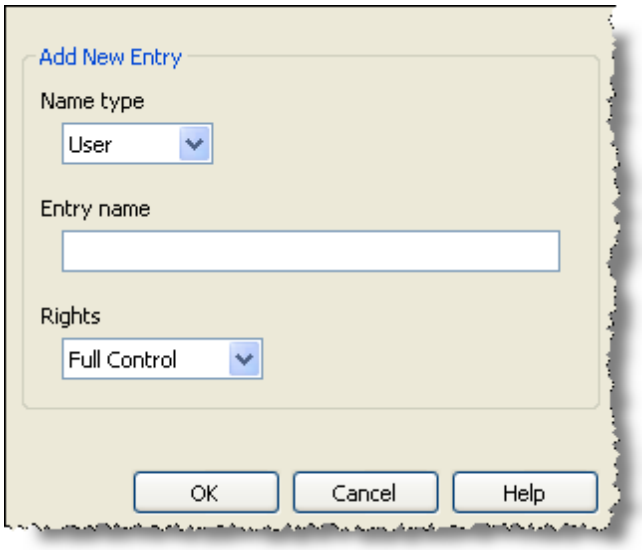
Buffalo Surveillance Server reads rights from top to bottom. For example, if the Documentation group is denied rights and JohnDoe appears in the list below Documentation, even if JohnDoe is granted full rights, he will not have any rights if he is a member of the Documentation group. On the other hand, if JohnDoe appears above the Documentation group and JohnDoe is given full rights, he will retain full rights even if he is a member of the Documentation group and the Documentation group is denied rights. Also note that Vault rights and media rights are hierarchical, with media rights being subordinate to overall Vault permissions.

Follow the steps in the sections listed below to add, change, or delete security rights:

- Add a New User, Group, Domain, or "Everyone" 223
- Change a Security Entry 225
- Delete a User, Group, Domain, or "Everyone" 226

Add a New User, Group, Domain, or "Everyone"

- Click . The **Add Entry** window will appear:



- Select a **Name type**. This indicates the type of rights.
- Enter an **Entry name**. This is the name that will appear under **Name**.

The name you enter must be valid on the computer on which the Vault is running.

- Select the **Rights** for the new user, group, domain or everyone. This is the actual rights granted to the given user, group, domain, or everyone.

Right	Meaning
Full Control	Enables the user, group, domain, or "everyone" to have full control.
Store/Retrieve	Enables the user, group, domain, or "everyone" to store and retrieve data.
Retrieve	Enables the user, group, domain, or "everyone" to retrieve (but not store) data.
None	Blocks the user, group, domain, or "everyone" from doing anything with data.

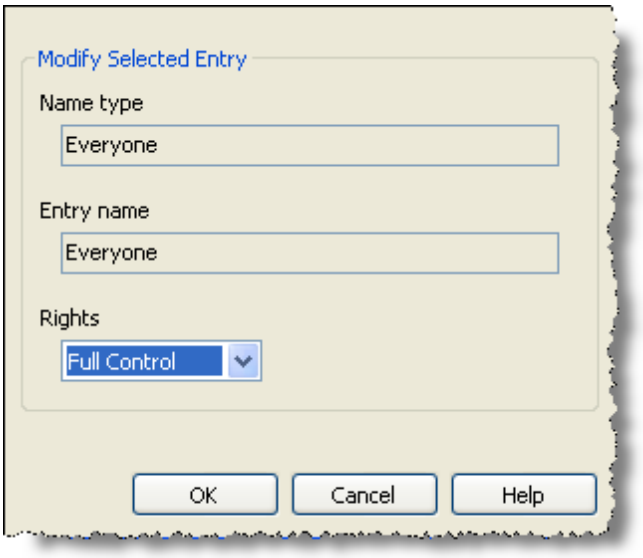
- Click **[OK]**.
- Use or to respectively move the new entry up or down in the list to change the priority the new entry is given in relation to other users, groups, and domains.

Buffalo Surveillance Server reads rights from top to bottom. For example, if the Documentation group is denied rights and JohnDoe appears in the list below Documentation, even if JohnDoe is granted full rights, he will not have any rights if he is a member of the Documentation group. On the other hand, if JohnDoe appears above the Documentation group and JohnDoe is given full rights, he will retain full rights even if he is a member of the Documentation group and the Documentation group is denied rights. Also note that Vault rights and media rights are hierarchical, with media rights being subordinate to overall Vault permissions.

- When you are finished adding new entries, click **[OK]** to save them.

Change a Security Entry

- To change a security entry, double-click it. The **Change Entry** window appears:



- Change the values for **Name type**, **Entry name**, and **Rights**.
- Click **OK** to save changes.
- In the **Properties** window, click **OK** to save changes.

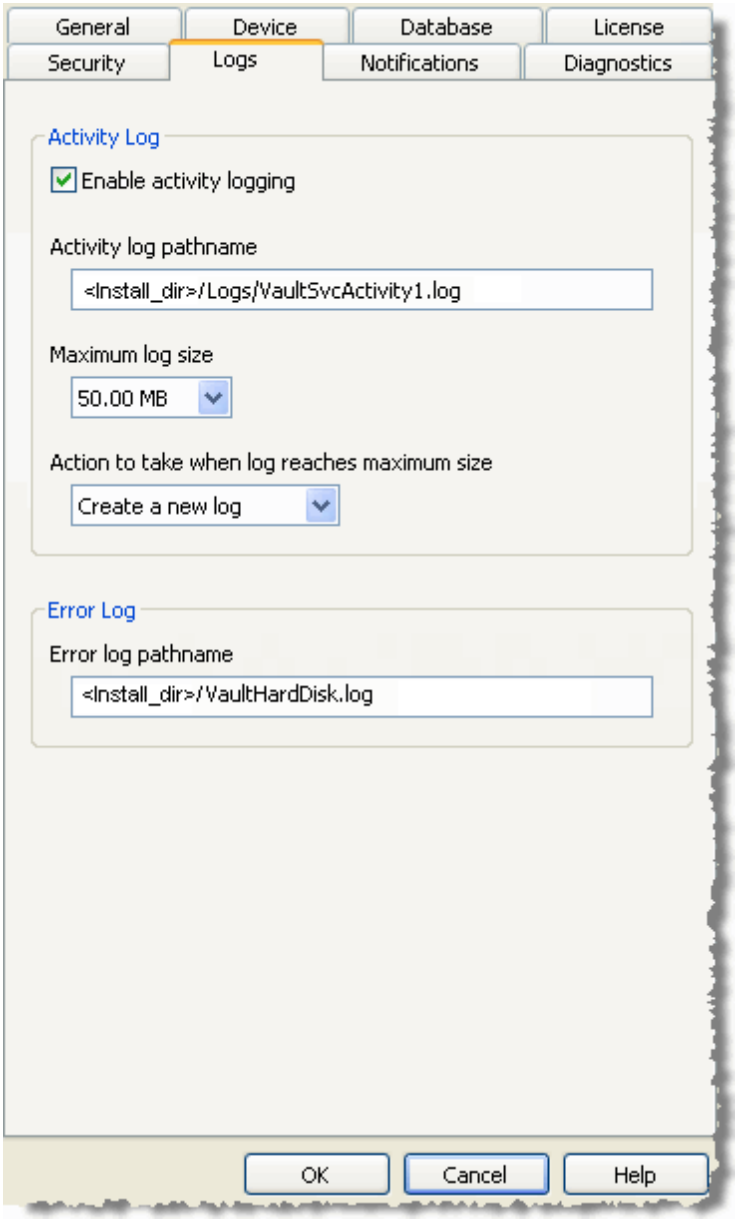
Delete a User, Group, Domain, or "Everyone"

- To delete an entry from the **Vault Access Control List**, select it by single clicking it.
- Click . The entry will be removed from the list.
- Click **[OK]** to save changes.

Logs

Use the **Logs** tab to enable the selected Vault's activity logging and to set activity and error log pathnames as well as maximum log size and the event to be executed when a log reaches maximum size.

- Open the Vault Admin application. In the left pane of the Vault Admin 204 main window, select the Vault to modify.
- Click to launch the <Vault Name> Properties window, or right-click the Vault name and select **Properties**. The Properties window features several tabs; each responsible for some aspect of Vault functionality. It opens to the **General** tab.
- Select the **Logs** tab.



- Select or enter the values that you prefer for the Vault from the following:

Field	Meaning and Directions
Enable activity logging	This checkbox will enable activity logging and the activity log fields listed below. If unchecked, Buffalo Surveillance Server will not create activity logs.

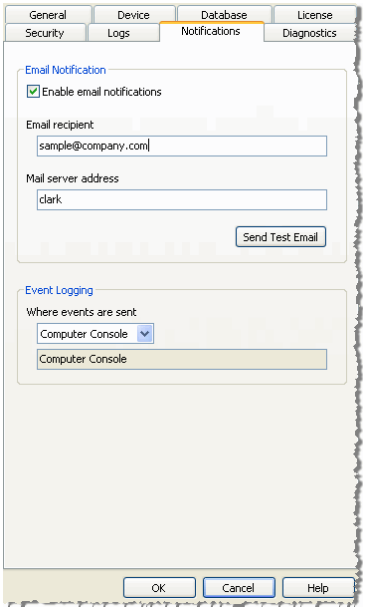
Field	Meaning and Directions
	Buffalo Surveillance Server supports event auditing, providing a security audit trail, through activity logs. Activity logs include following events: Vault start, Vault stop, file read, file write, file create, file delete, media load, media unload, and media erase. For these events, the following information is recorded: name and IP of the user who executed the event and the date and time the event was executed. Activity logging is optional. Buffalo Surveillance Server creates activity logs in tab-delimited format. Consequently, logs can be imported into any application that supports the tab-delimited format, such as Microsoft Excel.
Activity log pathname	This field defines to where your activity logs will be written.
Maximum log size	This option defines the maximum size to which the activity log will be permitted to grow. It is important to limit the size of the activity log because it may be difficult to find needed the information in an overly large activity log.
Action to take when the log reaches it maximum size	This option enables you to overwrite the existing activity log. Overwriting the activity log prevents activity log proliferation. If you select **No** for this option, a new activity log will be created whenever the current activity log reaches the maximum size you defined in the previous field.
Error log pathname	Error logs are created only when a Buffalo Surveillance Server Vault encounters a problem. Error logs include warning and Vault start and Vault stop information. Buffalo Surveillance Server supports error logging for every Vault in your Information Repository, and error logging is always enabled. This field enables you to define where error logs will be stored. Where "activity logs" record all Buffalo Surveillance Server activity, "error logs" record only events that have gone wrong. Be sure to remember where you are storing your error logs so that you can refer to them should an error condition occur during Buffalo Surveillance Server processing.

- Click **[OK]** to save the new settings.

Notifications

Use the **Notifications** tab to set how Buffalo Surveillance Server event notifications are published and to enable the selected Vault's email notification, set the email recipient, and set the mail server address. Events include anything of interest for managing a Vault, including Vault start, Vault stop, media requests, etc. Notifications are always enabled.

- Open the Vault Admin application. In the left pane of the Vault Admin 204 main window, select the Vault to modify.
- Click to launch the <Vault Name> Properties window, or right-click the Vault name and select **Properties**. The Properties window features several tabs; each responsible for some aspect of Vault functionality. It opens to the **General** tab.
- Select the **Notifications** tab.



- Select or enter the values for the Vault:

Field	Meaning and Directions
Enable email notification	Enable optional email notifications and the email notification fields listed below. When enabled, receive an email whenever an event occurs of interest for managing a Vault. These events include Vault start, Vault stop, media requests, etc., and are the same as those recorded for notifications.
Email recipient	Type the email address of the user receiving email notifications about Buffalo Surveillance Server events.

Field	Meaning and Directions
Mail server address	The address of your mail server. Use either IP address or computer name. ▸ Click **Send Test Email** to test the path. Buffalo Surveillance Server does not test valid parameters here. If an invalid IP address or computer name is entered, email notifications do not work.
Where events are sent	Define where events are logged. **Computer Console** causes events to be logged in a console that appears on the computer monitor. It remains open as long as the Vault is running. If the Vault is stopped, the console disappears. If the Vault is restarted, the console disappears and then reappears. **Window** causes events to be logged in a window that appears on the computer monitor. This window remains open as long as the Vault is running. If the Vault is stopped, the window disappears. If the Vault is restarted, the window disappear and then reappears. If you select **Computer Console** or **Window** in a Windows environment, configure Vault service on Windows to open a window on the desktop for diagnostic messages. For directions, see section, "Configure Vault Service on Windows to Open a Window on the Desktop for Diagnostic Messages". Once configured, Vault activity displays. If you close a window or console, the Vault stops. Buffalo Surveillance Server does not operate without running Vaults. **File** causes events to be logged to a file. Type the path where you want events logged. If a window or console is open when changing the mode of output to **File**, the console or window closes. However, the Vault continues to run.

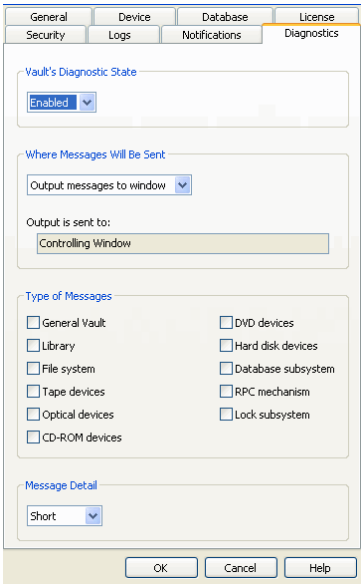
▸ Click **OK** to save the new settings.

Diagnostics

Use the **Diagnostics** tab to enable diagnostic logging for the selected Vault. When you enable diagnostics, the Buffalo Surveillance Server creates diagnostics logs for all Vault activity for the selected Vault. Diagnostic logging is optional. Because diagnostic logging significantly impacts system performance, it is disabled by default. When enabled, diagnostic logging is set to output to a window or console by default. If you restart the Vault and return to this tab, it will be set to the default, **Disabled**.

If you use diagnostic logging to assist in the resolution of problem conditions, be aware that it will seriously impact Information Repository performance. This is a complex feature and should be used with discretion.

- Open the Vault Admin application. In the left pane of the Vault Admin 204 main window, select the Vault to modify.
- Click to launch the <Vault Name> Properties window, or right-click the Vault name and select **Properties**. The Properties window features several tabs; each responsible for some aspect of Vault functionality. It opens to the **General** tab.
- Select the **Diagnostics** tab.



- Click the down arrow of the **Vault's Diagnostics State** combo box.
- Select **Enabled**.
- Use the combo box menu beneath **Where Messages Will Be Sent**, and select from the available options:

Where Messages Will Be Sent	Results
Output messages to window	On a Windows OS, this option sends the output information to an on-screen window that is opened by the process. On a UNIX OS, this option sends the output to the on-screen window associated with the running processes. To enable this option in Windows, you need to configure Vault service on Windows to open a window on the desktop for diagnostic messages. For directions, see the section titled, "Configure Vault Service on Windows to Open a Window on the Desktop for Diagnostic Messages". If you select this option, a window will appear to display Vault activity. **If you close this window, you will stop the Vault.** The Buffalo Surveillance Server will not operate without running Vaults.
Output messages to console	On a Windows OS, this option sends the output information to an on-screen window that is opened by the process. On a UNIX OS, this option sends the output to the computer's console window. To enable this option in Windows, you need to configure Vault service on Windows to open a window on the desktop for diagnostic messages. For directions, see the section titled, "Configure Vault Service on Windows to Open a Window on the Desktop for Diagnostic Messages". If you select this option, a window will appear to display Vault activity. **If you close this window, you will stop the Vault.** The Buffalo Surveillance Server will not operate without running Vaults.
Output messages to file	This field will be pre-populated with "con:" to indicate "output messages to console." Overwrite this value: in the **Enter Pathname** text box beneath **Where Messages Will Be Sent**, type the path (including filename) to where you want message files written. On all OSs, this option creates a file that contains all the output data. If a window or console is open when you change the mode of output to **File**, the console or window will close. However, the Vault will continue running.

If you have enabled and are running a console to monitor a Vault, you must close the console only via Vault Admin. **Closing the console or window manually will shut the Vault.**

- Define where **Output is sent to**. The file path (including filename) that you enter here defines where message files are written to. On all OSs, this option creates a file that contains all of the output data.

- Select **Type of Messages.** The lower left box of the window displays the types of devices from which you can capture diagnostic information. Check the checkbox in front of each of the option that you want to select. You can make multiple selections simultaneously.

  The following provides details about the available options:

Type of Message	Results
General Vault	Provides information about client connections and data moving in and out of the Vault.
Library	Provides details about SCSI activity regarding moving media within a robotic tape storage device.
File system	Includes any messaging about the host computer's working environment.
Tape devices	Provides information about the inner workings of the storage device itself.
Optical devices	Provides information about the inner workings of the storage device itself.
CD-ROM devices	Provides information about the inner workings of the storage device itself.
DVD devices	Provides information about the inner workings of the storage device itself.
Hard disk devices	Provides information about the inner workings of the storage device itself.
Database subsystem	For use only by Buffalo Surveillance Server engineers.
RPC mechanism	For use only by Buffalo Surveillance Server engineers.
Lock subsystem	For use only by Buffalo Surveillance Server engineers.

- Select **Message Detail**. The Buffalo Surveillance Server lets you choose a level of detail to include in your diagnostic logs. Use the combo box menu in the Message Detail section and select from the available list.

Message Detail	Results
Short	Provides only high-level overview information about the issues being tracked. For example, the General Vault feature only contains client connection names.
Standard	Provides more detail about the issue being tracked. For example, the General Vault feature provides additional information about the client connections including times, connection types and so on. The Standard option is the level preferred by Buffalo Surveillance Server engineers.
Extended	Provides a full set of details. It is usually reserved to assist in resolving complex issues in low-level Information Repository functions.

- Click **[OK]** to save your changes.

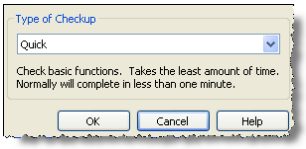
Vault Checkup

Use the Vault Checkup window to see Vault health. Run Vault Checkup if you suspect something may be wrong with a Vault in your Information Repository. There are three modes: Quick, Normal, Extensive. Each check tests Vaults for speed and load bearing capacity. Quick check takes the least amount of time; Extensive, the most. Normal is in-between.

To run Vault Checkup the Vault Admin requires at least one piece of media with available space and that it does not belong to a storage pool.

Follow the steps below to run a Vault checkup.

- In the left pane of the Vault Admin 204 main window, select a Vault .
- Select in the Vault Admin toolbar 205 to launch the **Vault Checkup** window.



- Select the level of check to run.
- Press **OK**. The **Vault Checkup** output window appears containing the results of the check.

Prepare Media

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

Use the **Prepare Media** window to add and load new media to your Information Repository. Prepare Media enables you to set all of the parameters required to prepare a unit of media for use by a Buffalo Surveillance Server Vault. Some of these parameters cannot be changed unless you reformat the media 243. The Prepare Media window is slightly different for each type of media.

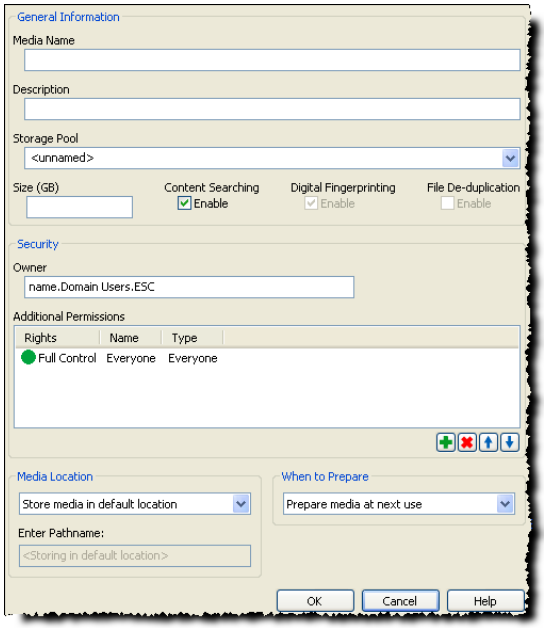
Before you can prepare media, you must already have Vaults added to your Buffalo Surveillance Server Information Repository. See the Buffalo Surveillance Server Configuration 345 sections for information and directions for adding Vaults. The Vault to which you want to add media must be unsecured 209 before any media preparation will be permitted.

When executing Vault and media operations, the Buffalo Surveillance Server may appear as if it is not responding. However, when the Buffalo Surveillance Server completes its given task, it responds normally.

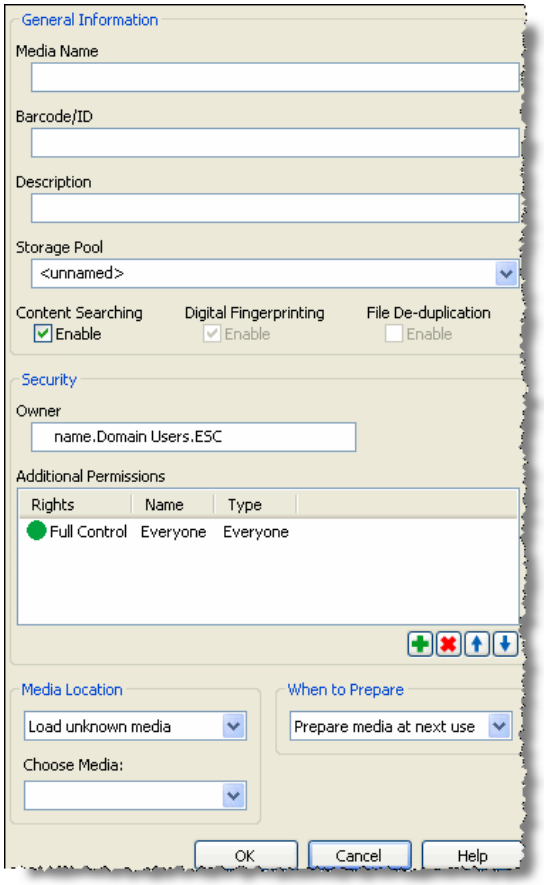
Follow the steps below to prepare media.

- In the left pane of the Vault Admin 204 window, click ⊞ in front of the Vault to add media.
- Select the media's name next to the Media icon.
- Click in the **Vault Admin** tool bar 205. The **Prepare Media** window appears:

The options in the **Prepare Media** window are based on the media type of the Vault selected. For example, if the Vault is being prepared for data tape media, then tape media options display. If the Vault is being prepared for hard disk media, the Prepare window will display options for disk media.



Prepare Media window for hard disk media



Prepare media window for tape media

- In the **Prepare Media** window, enter values in the fields listed below. Only **Media Name** and **Size** are required. The names you enter for **Media Name** and **Storage Pool** appear in the Source tab of Data Service Policies 175 as well as the Destination tabs of Camera policies, 49 and Data Service Policies 188.

Field	Description
Media Name	This is the name the Information Repository will use when referencing this media. The name is displayed on all media referencing interfaces and reports. It is best to use a descriptive name. For example, you might use "Monday-1" for a unit of media being used as part of a Monday night job set.
Barcode/ID - available only for tape media that support barcodes	This number corresponds to the barcode or a unique ID for the media. If used, Buffalo Surveillance Server tracks the media by its barcode.

Field	Description
	Barcode systems provide a significant performance increase whenever media is being loaded, unloaded, or indexed by the Information Repository.
Description	This description is used on all media-referencing interfaces and reports. It is best to carry forward the naming convention used for the Media Name. For example, "Monday night job, tape 1 of 5", could be a good description for a tape named "Monday-1."
Storage Pool	Storage pools enable you to group disparate units of media. Used properly, storage pools offer a convenient way to accommodate multiple jobs simultaneously and, by providing fail-over should a problem occur during a process, prevent incomplete processing. A typical example of storage pooling is the utilization of several units of media (which may reside in several different Vaults) together for use by a single policy. For example, if you want to have the "Monday night backup" write to several units of media, you would create a "Monday night backup" storage pool and assign to it every unit of media that you want to use for that purpose. To assign a unit of media to a storage pool, select a storage pool from the pull-down list or enter the name of the storage pool (for example, Monday night backup).
Size (GB) - available only for hard disk media; not available for tape media	This value defines the amount of storage space you want to make available for the Information Repository on the given unit of media. It enables you to limit how much physical space on a single hard disk the Information Repository will use. For example, if the given unit of media has a physical capacity of 100 GB, you can limit the amount available to the Information Repository to, say, 50 GB by entering 50. If you enter a value greater than the amount of space actually available, Buffalo Surveillance Server will nevertheless recognize and use only as much space as is physically available.
Content Searching	This feature enables you to search the content of files in the Information Repository. With this feature activated, you can run content specific searches. For example, you can find all content containing the phrase "1Q2006." If not selected, you will not be able to search for content in your Information Repository. Enabling this feature will increase the size of your metadata catalogs.

Field	Description
Digital Fingerprinting - always selected for hard disk and tape media.	This option supports proper chain-of-custody management. When enabled, Buffalo Surveillance Server automatically assigns a digital fingerprint to all data captured or ingested into the Information Repository. This option is always selected and cannot be changed for hard disk and tape Vaults.
File De-duplication	De-duplication enables you to prevent the duplication of data in the Information Repository. If you enable this option, Buffalo Surveillance Server will check the destination media, before moving data, for exact copies of data you want to process. If an exact copy of the data exists in the destination media, Buffalo Surveillance Server will not store the part of the data that is redundant. Instead, it will reference the already-stored data on the destination media. If you use de-duplication, you may end up with only one full copy of any given piece of data in your Information Repository. This means that if the Vault or media upon which the data is stored fails, you will lose your data. To prevent this from happening, be sure to back up all critical data without using de-duplication.
Owner - read-only	This is the name of the owner of the media to whom rights that you set will pertain. The media owner value is a pass-through from the Vault's host computer and the login being used. The information in this field cannot be modified.
Additional Permissions	Permissions, also called "rights," are the limitations set for users in processing files. Rights determine how users (also know as "roles") are permitted to manipulate given files. Each unit of media may have as many as sixteen (16) different permission levels. The permissions information entered creates an access control list (ACL) for the unit of media. For new media, all users on the network are granted rights to use media by default. To restrict specific users or groups from having access to a given unit of media, you must restrict rights by deleting Buffalo Surveillance Server default rights and adding new, limited rights for the specific groups and/or users you want to restrict.

Field	Description
	Buffalo Surveillance Server reads rights from top to bottom. For example, if the Documentation group is denied rights and JohnDoe appears in the list below Documentation, even if JohnDoe is granted full rights, he will not have any rights if he is a member of the Documentation group. On the other hand, if JohnDoe appears above the Documentation group and JohnDoe is given full rights, he will retain full rights even if he is a member of the Documentation group and the Documentation group is denied rights. Also note that Vault rights and media rights are hierarchical, with media rights being subordinate to overall Vault permissions. ▸ To add new permissions, see **Add a New User, Group, Domain, or "Everyone"**. ▸ To change existing permissions, see **Change a Security Entry**. ▸ To delete existing permissions, see **Delete a User, Group, Domain, or "Everyone"**.

- Assign a **Media Location**. This option is active only when you are preparing new media in the Prepare Media window. It is not active in the Prepare Existing Media 243 window.

You will have different options depending on whether you are preparing hard disk or tape media:

Media Type	Directions
Hard disk	▸ Leave the default location, **Store media at default location**. (This location was set when the vault was initially added, and can be changed using the Device tab in the Properties window for the vault.) Or, ▸ Select **Store media at pathname** to store media at some location other than the default. The **Enter Pathname** field will be activated.

Media Type	Directions
	▸ Enter the Pathname, including drive letter of the location at which you want media-related files and directories stored. For example, C:/Archive/SaturdayBackups. When you prepare new hard disk media, the Media Location default option is set to "Store media in the default location." If you enter a pathname, the parent folder of the pathname you specify must already exist and no other media can already be loaded at that same pathname. This pathname is relative to the computer on which the Vault Service is running. The Buffalo Surveillance Server Vault Service must have rights to add files and/or subsequent folders at the specified location.
Tape	▸ Choose a media.

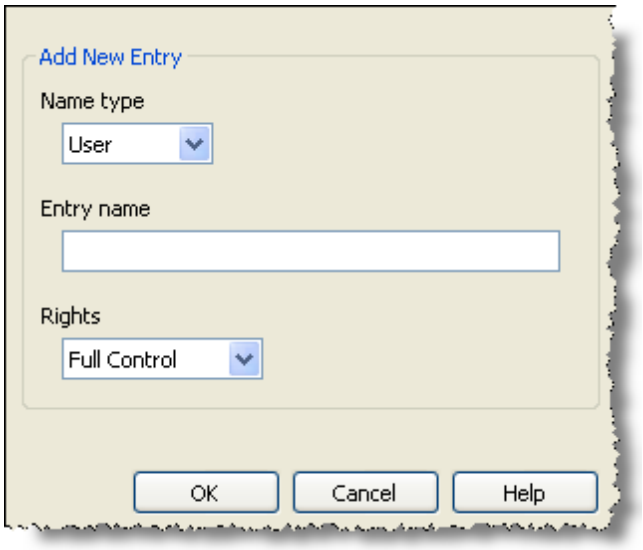
▸ Use **When to Prepare** to assign a **Preparation Time**. Select from the choices available:

Preparation Time	Results
Prepare media at next use	Buffalo Surveillance Server will operate without preparing the media until a job is started that requires the media.
Prepare media now	Buffalo Surveillance Server will load the specified media unit into a drive and format it.

▸ Click **[OK]** to set your options.

Add a New User, Group, Domain, or "Everyone"

▸ Click . The **Add Entry** window will appear:



- Select a **Name type**. This indicates the type of rights.
- Enter an **Entry name**. This is the name that will appear under **Name**.

The name you enter must be valid on the computer on which the Vault is running.

- Select the **Rights** for the new user, group, domain or everyone. This is the actual rights granted to the given user, group, domain, or everyone.

Right	Meaning
Full Control	Enables the user, group, domain, or "everyone" to have full control.
Store/Retrieve	Enables the user, group, domain, or "everyone" to store and retrieve data.
Retrieve	Enables the user, group, domain, or "everyone" to retrieve (but not store) data.
None	Blocks the user, group, domain, or "everyone" from doing anything with data.

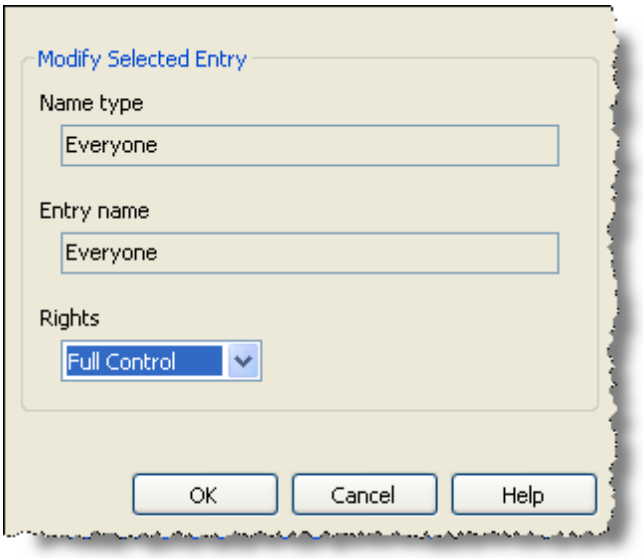
- Click **[OK]**.
- Use or to respectively move the new entry up or down in the list to change the priority the new entry is given in relation to other users, groups, and domains.

Buffalo Surveillance Server reads rights from top to bottom. For example, if the Documentation group is denied rights and JohnDoe appears in the list below Documentation, even if JohnDoe is granted full rights, he will not have any rights if he is a member of the Documentation group. On the other hand, if JohnDoe appears above the Documentation group and JohnDoe is given full rights, he will retain full rights even if he is a member of the Documentation group and the Documentation group is denied rights. Also note that Vault rights and media rights are hierarchical, with media rights being subordinate to overall Vault permissions.

- When you are finished adding new entries, click **[OK]** to save them.

Change a Security Entry

- To change a security entry, double-click it. The **Change Entry** window appears:



- Change the values for **Name type**, **Entry name**, and **Rights**.
- Click **OK** to save changes.
- In the **Properties** window, click **OK** to save changes.

Delete a User, Group, Domain, or "Everyone"

- To delete an entry from the **Vault Access Control List**, select it by single clicking it.
- Click . The entry will be removed from the list.
- Click **[OK]** to save changes.

Prepare Existing Media

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

Use the **Prepare Existing Media** window to modify values and reformat media already implemented in the Information Repository. The Prepare Existing Media window is slightly different for each type of media.

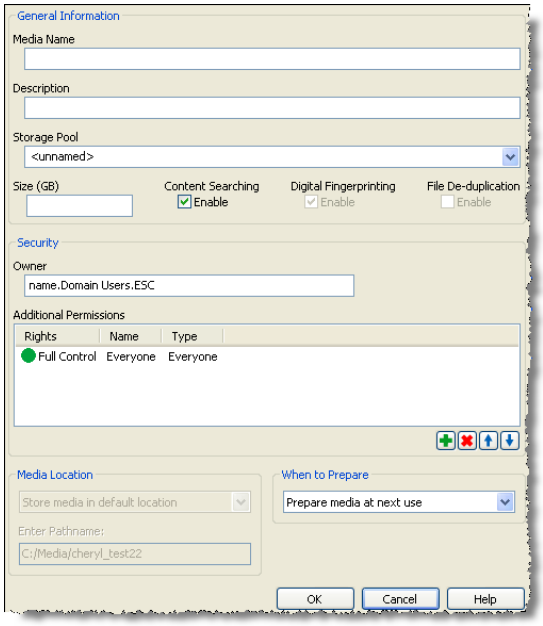
Preparing existing media reformats media on tape and hard disk. If you need to preserve information on media that you need to "re-prepare" (i.e., reformat), be sure to first create and run a Data Service policy 157 to migrate or move the data to the media on which it will be preserved.

When executing Vault and media operations, the Buffalo Surveillance Server may appear as if it is not responding. However, when the Buffalo Surveillance Server completes its given task, it responds normally.

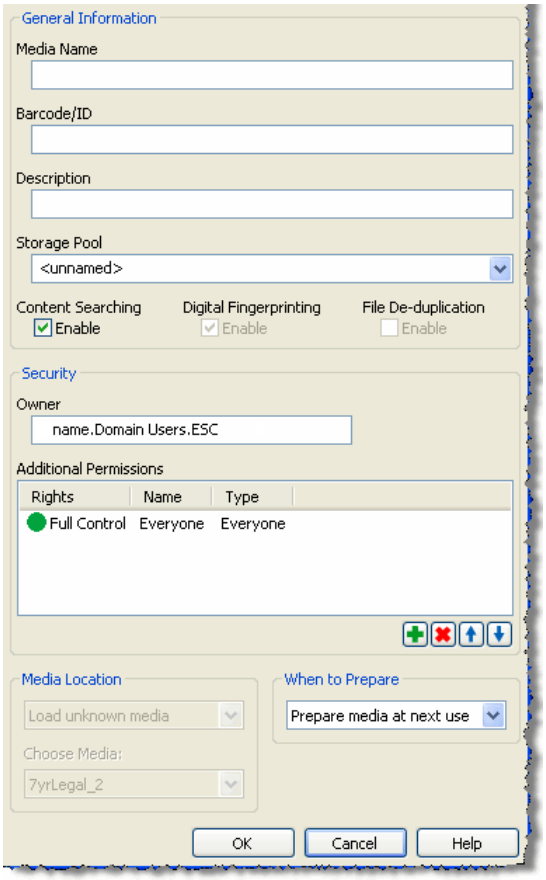
Follow the steps below to prepare existing media.

- In the left frame of the Vault Admin 204 main window, click the plus icon ⊞ in front of the Vault to which you want to add media.
- Click (and highlight) the Vault's media icon .
- In the right frame of the **Vault Admin** main window, click (and highlight) the unit of media that you want prepare.
- Click in the **Vault Admin** tool bar 205. The **Prepare Existing Media** window appears.

The options presented in the **Prepare Existing Media** window will be based on the media type in use by the Vault you selected. If the Vault is being prepared for tape media, the Prepare Existing Media window will display options for tape media. If the Vault is being prepared for hard disk media, the Prepare Existing Media window will display options for disk media.



Prepare Existing Media window for hard disk media



Prepare Existing Media window for tape media

- In the **Prepare Existing Media** window, enter values in the fields listed below. Only **Media Name** and **Size** are required. The names you enter for **Media Name** and **Storage Pool** appear in the Source tab of Data Service Policies 175 as well as the Destination tabs of Camera policies 49, and Data Service Policies 188.

Field	Description
Media Name	This is the name the Information Repository will use when referencing this media. The name is displayed on all media referencing interfaces and reports. It is best to use a descriptive name. For example, you might use "Monday-1" for a unit of media being used as part of a Monday night job set.
Barcode/ID - available only for tape media that support barcodes	This number corresponds to the barcode or a unique ID for the media. If used, Buffalo Surveillance Server tracks the media by its barcode.

Field	Description
	Barcode systems provide a significant performance increase whenever media is being loaded, unloaded, or indexed by the Information Repository.
Description	This description is used on all media-referencing interfaces and reports. It is best to carry forward the naming convention used for the Media Name. For example, "Monday night job, tape 1 of 5", could be a good description for a tape named "Monday-1."
Storage Pool	Storage pools enable you to group disparate units of media. Used properly, storage pools offer a convenient way to accommodate multiple jobs simultaneously and, by providing fail-over should a problem occur during a process, prevent incomplete processing. A typical example of storage pooling is the utilization of several units of media (which may reside in several different Vaults) together for use by a single policy. For example, if you want to have the "Monday night backup" write to several units of media, you would create a "Monday night backup" storage pool and assign to it every unit of media that you want to use for that purpose. To assign a unit of media to a storage pool, select a storage pool from the pull-down list or enter the name of the storage pool (for example, Monday night backup).
Size (GB) - available only for hard disk media; not available for tape media	This value defines the amount of storage space you want to make available for the Information Repository on the given unit of media. It enables you to limit how much physical space on a single hard disk the Information Repository will use. For example, if the given unit of media has a physical capacity of 100 GB, you can limit the amount available to the Information Repository to, say, 50 GB by entering 50. If you enter a value greater than the amount of space actually available, Buffalo Surveillance Server will nevertheless recognize and use only as much space as is physically available.
Content Searching	This feature enables you to search the content of files in the Information Repository. With this feature activated, you can run content specific searches. For example, you can find all content containing the phrase "1Q2006." If not selected, you will not be able to search for content in your Information Repository. Enabling this feature will increase the size of your metadata catalogs.

Field	Description
Digital Fingerprinting - always selected for hard disk and tape media.	This option supports proper chain-of-custody management. When enabled, Buffalo Surveillance Server automatically assigns a digital fingerprint to all data captured or ingested into the Information Repository. This option is always selected and cannot be changed for hard disk and tape Vaults.
File De-duplication	De-duplication enables you to prevent the duplication of data in the Information Repository. If you enable this option, Buffalo Surveillance Server will check the destination media, before moving data, for exact copies of data you want to process. If an exact copy of the data exists in the destination media, Buffalo Surveillance Server will not store the part of the data that is redundant. Instead, it will reference the already-stored data on the destination media. If you use de-duplication, you may end up with only one full copy of any given piece of data in your Information Repository. This means that if the Vault or media upon which the data is stored fails, you will lose your data. To prevent this from happening, be sure to back up all critical data without using de-duplication.
Owner - read-only	This is the name of the owner of the media to whom rights that you set will pertain. The media owner value is a pass-through from the Vault's host computer and the login being used. The information in this field cannot be modified.
Additional Permissions	Permissions, also called "rights," are the limitations set for users in processing files. Rights determine how users (also know as "roles") are permitted to manipulate given files. Each unit of media may have as many as sixteen (16) different permission levels. The permissions information entered creates an access control list (ACL) for the unit of media. For new media, all users on the network are granted rights to use media by default. To restrict specific users or groups from having access to a given unit of media, you must restrict rights by deleting Buffalo Surveillance Server default rights and adding new, limited rights for the specific groups and/or users you want to restrict.

Field	Description
	Buffalo Surveillance Server reads rights from top to bottom. For example, if the Documentation group is denied rights and JohnDoe appears in the list below Documentation, even if JohnDoe is granted full rights, he will not have any rights if he is a member of the Documentation group. On the other hand, if JohnDoe appears above the Documentation group and JohnDoe is given full rights, he will retain full rights even if he is a member of the Documentation group and the Documentation group is denied rights. Also note that Vault rights and media rights are hierarchical, with media rights being subordinate to overall Vault permissions. ▸ To add new permissions, see **Add a New User, Group, Domain, or "Everyone"**. ▸ To change existing permissions, see **Change a Security Entry**. ▸ To delete existing permissions, see **Delete a User, Group, Domain, or "Everyone"**.

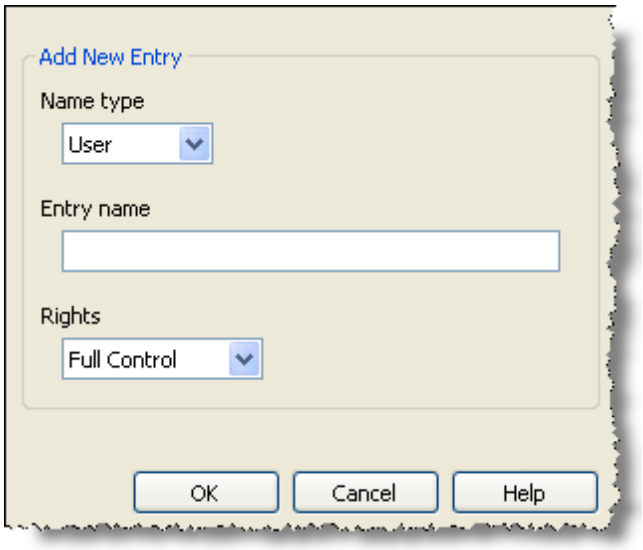
- Assign a **Media Location**. This option not available in the Prepare Existing Media window. It is available only in the Prepare Media 235 window, .
- Use **When to Prepare** to assign a **Preparation Time**. Select from the choices available:

Preparation Time	Results
Prepare media at next use	Buffalo Surveillance Server will operate without preparing the media until a job is started that requires the media.
Prepare media now	Buffalo Surveillance Server will load the specified media unit into a drive and format it.

- Click **[OK]** to set your options.

Add a New User, Group, or Domain

- Click . The **Add Entry** window will appear:



- Select a **Name type**. This indicates the type of rights.
- Enter an **Entry name**. This is the name that will appear under **Name**.

The name you enter must be valid on the computer on which the Vault is running.

- Select the **Rights** for the new user, group, domain or everyone. This is the actual rights granted to the given user, group, domain, or everyone.

Right	Meaning
Full Control	Enables the user, group, domain, or "everyone" to have full control.
Store/Retrieve	Enables the user, group, domain, or "everyone" to store and retrieve data.
Retrieve	Enables the user, group, domain, or "everyone" to retrieve (but not store) data.
None	Blocks the user, group, domain, or "everyone" from doing anything with data.

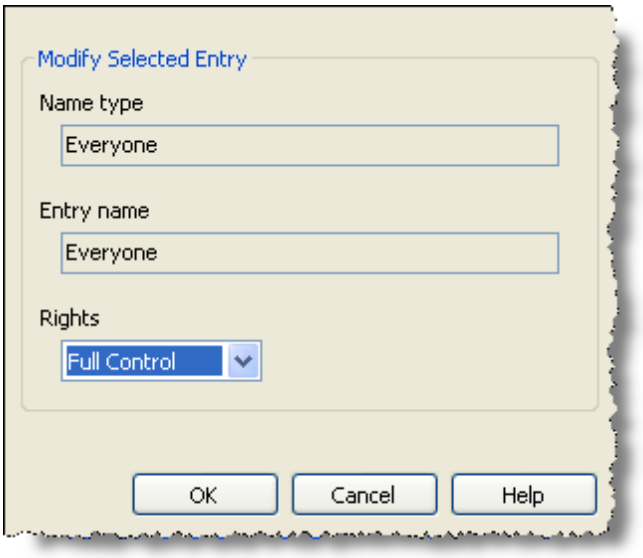
- Click **[OK]**.
- Use or to respectively move the new entry up or down in the list to change the priority the new entry is given in relation to other users, groups, and domains.

Buffalo Surveillance Server reads rights from top to bottom. For example, if the Documentation group is denied rights and JohnDoe appears in the list below Documentation, even if JohnDoe is granted full rights, he will not have any rights if he is a member of the Documentation group. On the other hand, if JohnDoe appears above the Documentation group and JohnDoe is given full rights, he will retain full rights even if he is a member of the Documentation group and the Documentation group is denied rights. Also note that Vault rights and media rights are hierarchical, with media rights being subordinate to overall Vault permissions.

- When you are finished adding new entries, click **[OK]** to save them.

Change a Security Entry

- To change a security entry, double-click it. The **Change Entry** window appears:



- Change the values for **Name type**, **Entry name**, and **Rights**.
- Click **OK** to save changes.
- In the **Properties** window, click **OK** to save changes.

Delete a User, Group, Domain, or "Everyone"

- To delete an entry from the **Vault Access Control List**, select it by single clicking it.
- Click . The entry will be removed from the list.
- Click **[OK]** to save changes.

Load Media: Load, Reload, or Re-index Media

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

Loading media means adding media that has at one time been part of the Information Repository but is no longer being tracked, to a Vault. If you attempt to load unprepared tape media to a Vault, the Buffalo Surveillance Server will label it **Unknown**. This label will be replaced with the one that you enter when you prepare the media 235. If you attempt to load unprepared media to a hard disk or Vault, the Buffalo Surveillance Server will not recognize the media. If you simply need to re-catalogue (in other words, "re-index") media that is being tracked in the Information Repository, you must reload it.

Reloading media means re-adding media, to the Information Repository, that has already been in use and is being tracked. When you reload media, the Vault uses its already existing catalog for the media unless it finds corruption (or you force re-index of the media). When reloading media onto the Information Repository, you must use the reload process.

If you need to re-index media, you must first unload the media 255. If you attempt to reload media without first unloading it, the operation will fail and an error message will appear.

Re-indexing media means to have the Information Repository survey the data on the media and create a new catalog on the media (if needed) and on the Vault on which the media will reside. If a unit of media that is or has been in use in the Information Repository becomes unreliable, you should re-index it. To do this, you must unload 255 and then reload the unit of media.

When executing Vault and media operations, the Buffalo Surveillance Server may appear as if it is not responding. However, when the Buffalo Surveillance Server completes its given task, it responds normally.

Add New Vaults or Media On the Fly

You can increase automatic fail-over performance with a more flexible Information Repository design that eliminates the possibility of a single point of failure. For example, you can move media freely between Vaults of the same type, so if a tape is taken out of one Vault and inserted into another, the Information Repository will automatically locate the data without being notified of the move. If a tape library is getting full, a second library can be brought online seamlessly. Half of the new tapes can be inserted into the older library, and half of its full tapes can be inserted into the new library. The result is a balanced Information Repository with two libraries that are accessible to the network.

If there is more than one Vault available, clients can divide use of the available Vaults. They can also fail-over to other Vaults should a Vault fail. The same logic applies even if there is more than a single tape-based Vault containing tapes with the same label (for example, "Monday Incremental").

Follow the steps in the sections listed below to load, reload, or re-index media:

- Load Hard Disk Media 251
- Load Tape Media 253
- Reload Media 254

Load Hard Disk Media

You can load media only to existing Vaults. If you have not yet added Vaults, you can do so using the Add or Remove Vault Wizard 345.

- In the left frame of the Vault Admin 204 main window, click ⊞ in front of the Vault into which you wish to load media.
- Click (and highlight) Media.

- Click in the Vault Admin tool bar 205 to launch the **Load Media** window. The Load Media window will appear.

- In the **Media Name** text box, enter the name for the media unit being "loaded".
- In the **Media Location** pull-down list, leave the default location ("Media is located in default location"); or, select **Media is located at pathname**. If you select **Media is located at pathname**, **Enter Pathname** will become active.
- If you select **Media is located at pathname**, enter the directory path for the media unit being "loaded" in the **Enter Pathname** text box.

Buffalo Surveillance Server will always look for the media at the default location.

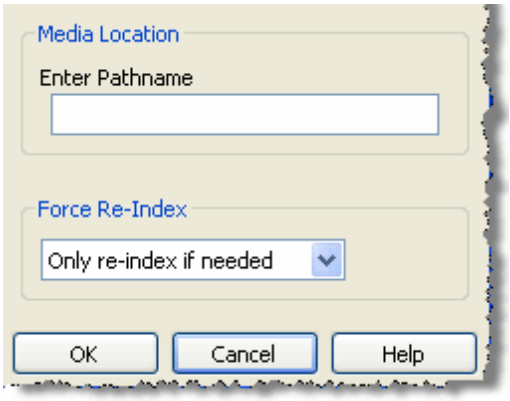
- Leave **Force Re-Index** set to **Only re-index if needed**. Buffalo Surveillance Server will index the media if necessary. You can use forced re-indexing to ensure that your media is re-indexed.
- Click **[OK]** to complete the process. A new unit of media will appear in the media list.

Load Shadow Hard Disk Media

You can load media only to existing shadow hard disk Vaults. If you have not yet added Vaults, you can do so using the Add or Remove Vault Wizard 345.

- In the left frame of the Vault Admin 204 main window, click ⊞ in front of the Vault into which you wish to load media.
- Click (and highlight) Media.

- Click in the Vault Admin tool bar 205 to launch the **Load Media** window. The Load Media window will appear.



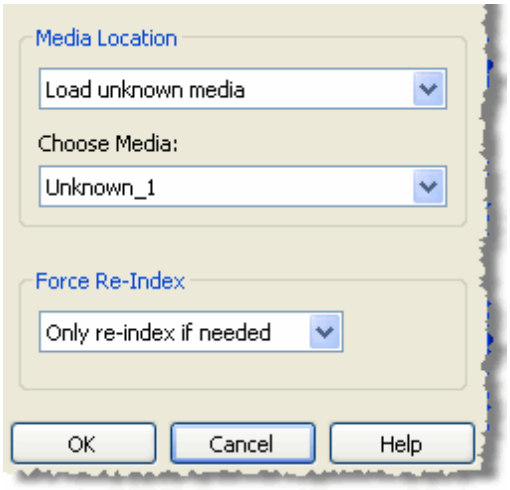
- In the **Enter Pathname** field of **Media Location**, enter the pathname of the directory you want to shadow into the Information Repository.
- Leave **Force Re-Index** set to **Only re-index if needed**. Buffalo Surveillance Server will index the media if necessary. You can use forced re-indexing to ensure that your media is re-indexed.
- Click **[OK]** to complete the process. A new unit of media will appear in the media list.

Load Tape Media

You can load media only to existing Vaults. If you have not yet added Vaults, you can do so using the Add or Remove Vault Wizard 345.

- Ensure that there is a new unit of media in the storage device. How to do this will vary depending on the hardware that you are using. See the documentation for your hardware for assistance.
- In the left frame of the Vault Admin 204 main window, click ⊞ in front of the Vault into which you wish to load media.
- Click (and highlight) Media.

- Click in the Vault Admin tool bar 205 to launch the **Load Media** window. The Load Media window will appear.



- Select an option from the **Media Location** combo box. Select **Load unknown media** when you want to load a unit of media that is already physically loaded into the Vault's storage device. Select **Load from storage slot** when you want to load a unit of media from a known storage slot within the Vault's storage library.
- Select a unit of media from the **Choose media** pull-down list (which will display all of the media in the storage device).
- Leave **Force Re-Index** set to **Only re-index if needed**. Buffalo Surveillance Server will index the media only if necessary.
- Click **[OK]** to complete the process. A new unit of media will appear in the media list 204.

Reload Media

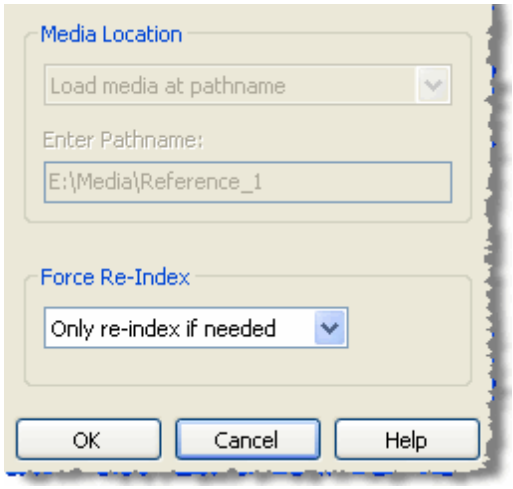
As long as you are tracking media, your Vault will display the media, even if the media has been unloaded from the storage device. Reloading media means to add it to the storage device after it has been taken off line. If you are using tapes or glass media, insert the media into its storage device. If you are using virtual media, you will not physically handle the media.

Use the **Reload Selected Media** window to load tape media (such as tapes that are outside of a storage device) into a Vault or to re-index hard disk media. The Reload Selected Media window is almost identical to the Load Media window.

- In the left frame of the Vault Admin 204 main window, click ⊞ in front of the Vault into which you wish to load media.
- Click (and highlight) Media.

- Right-click the particular unit of media that you want to reload, and select **Reload Media**. The **Reload Media** window will appear. It looks just like the Load Media window except for the header and the available fields in which you can modify values:

Reload Media window for hard disk media



Reload Media window for tape media

- Select a re-indexing option. If the Vault has a good listing of the media in its catalog, select **Only re-index if needed**. The media unit will not be re-indexed if Buffalo Surveillance Server determines that re-indexing is not called for. On the other hand, if the catalog entries for the media are suspect or do not exist, the Information Repository will attempt to re-index the media to update its catalog. Select **Force a re-index of media** only if you have a reason to suspect that the catalog on the Vault or the media is incorrect.

- Click **[OK]**. The media will be reloaded and no longer have a gold bar beneath it.

Unload Media

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

Most typically, you remove media when it is full. You can remove media from a Vault in two ways:

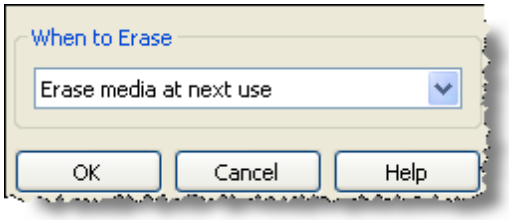
- Tracked and managed by the Information Repository. This is known as unloading to off-line status. As long as media is tracked, its Vault catalog remains on the Vault in which the media normally resides. It also appears in Vault Admin 204 (denoted as off-line), and its files and metadata are searchable.
- Not tracked by the Information Repository.

The process of unloading media is identical for hard disk media and tape media — with one exception. On tape media you can either leave the media inside the storage library or remove it from the Information Repository entirely. Stand-alone tape drive-based Vaults work the same as tape library-based Vaults.

When executing Vault and media operations, the Buffalo Surveillance Server may appear as if it is not responding. However, when the Buffalo Surveillance Server completes its given task, it responds normally.

Follow the steps below to unload media.

- From the left frame of the Vault Admin 204 main window, click ⊞ in front of the Vault from which you want to remove media.
- Click ⊞ in front of the Vault's Media icon to open the media list.
- Click (and highlight) the media unit that you want to unload.
- Click in the Vault Admin tool bar 205. The **Unload Media** window will appear.



- Use the **Media Tracking** pull-down list, and select one of the options available:

Media Tracking Options	Required Input and Results
Track media after unloading	▸ Enter a descriptive note about where media will be stored in the text box labeled **Location where media will be stored**. The Vault's catalog will be updated with this information. Should data on this unit of media be required for retrieval, a media request alert (including the location note) will be displayed by the Information Repository, prompting an administrator to load the required media.

Media Tracking Options	Required Input and Results
Do not track media any longer	The Location where media will be stored text box will be disabled. When the media leaves the Information Repository, its entries will be removed from the Vault's catalog.

- Select an option from **Media Updating** combo box:

Media Updating Options	Results
Update media if needed	The Vault will update the on-media catalog (on the media unit being unloaded) only if it is out of date.
Do not update media	The Vault will not update the on-media catalog for the media unit being unloaded.

- Click **[OK]** to complete the process. The media will appear with a gold background in the main window 204.

Erase Media

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

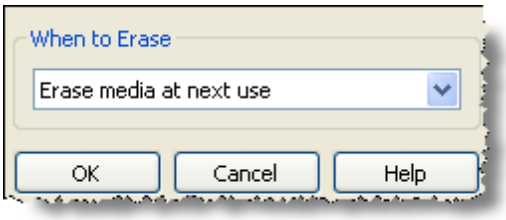
The erase media feature erases data from a unit of media but leaves the media header information intact. Header information comprises the information entered when the media was prepared 235: media name, owner, rights, and other pertinent information are retained for future use. It is better to erase media than to reformat media 243 wherever possible. When you erase media, the Buffalo Surveillance Server simply flags data ("erased") that can be overwritten.

There may be several reasons to erase media. Whenever physical, sequential write media, such as tape, is used as the storage media, it must be erased as part of the purge process. Therefore, if this type of media is being used as part of a multi-level storage hierarchy through which files are being migrated and replicated, viable data on the media must be moved to other media and the original media erased in order to purge old, expired data from the media. Media being used in a cycled Information Repository must also go through erasures. At the end of a cycle, the old media being reintroduced needs to be erased by the Information Repository before it can be reused.

Media erasing is managed through the **Erase Media** window. Follow the steps below to erase media:

- In the left frame of the Vault Admin 204 main window, click ⊞ in front of the Vault from which you intend to remove media.
- Click ⊞ in front of the Vault's media icon to open the media list beneath it.

- Click (and highlight) the media unit that you want to erase.
- Click in the Vault Admin tool bar[205]. The **Erase Media** window will appear.



- Choose an option from the **When to Erase** pull-down list:

When to Erase	Results
Erase media at next use	The unit of media will be erased just prior to the next time it is used in a job.
Erase media now	The unit of media will be loaded into a drive and erased immediately.

- Click **[OK]** to activate your selection.

Start Vaults Manually

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

When managing an Information Repository, there may be times when Vaults do not start automatically. You will need to start them manually.

To start a Vault, follow the steps for your OS below.

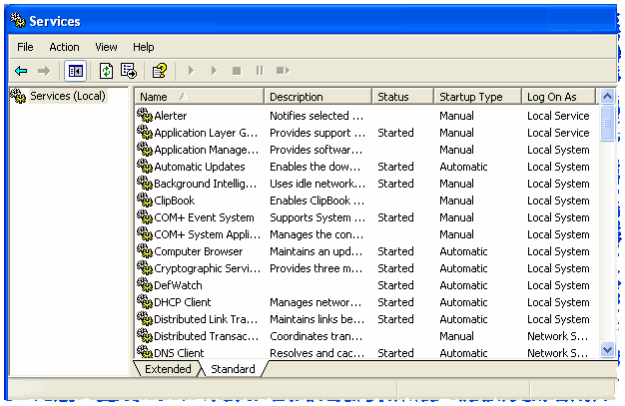
Windows

Use **Windows Services** to start Vaults and to perform other Vault related OS operations.

You may need Windows administrator rights to perform certain tasks. General information about using Services is provided by Microsoft: Click Action > Help (on Services window toolbar).

- From your Window's Taskbar, click **Start** > **All Programs** > **Control Panel**.
- If you are displaying the **Category View**, click **Performance and Maintenance**. If you are displaying the Classic View, skip this step and go to the next.

- Click **Administrative Tools**. (The icon and name are identical for both the Category and Classic views.)
- Double-click . The **Services** window appears:


Services
File Action View Help
Services (Local)
Name Description Status Startup Type Log On As
Alerter Notifies selected ... Manual Local Service
Application Layer G... Provides support ... Started Manual Local Service
Application Manage... Provides softwar... Manual Local System
Automatic Updates Enables the dow... Started Automatic Local System
Background Intellig... Uses idle network... Started Manual Local System
ClipBook Enables ClipBook ... Manual Local System
COM+ Event System Supports System ... Started Manual Local System
COM+ System Appli... Manages the con... Manual Local System
Computer Browser Maintains an upd... Started Automatic Local System
Cryptographic Servi... Provides three m... Started Automatic Local System
DefWatch Started Automatic Local System
DHCP Client Manages networ... Started Automatic Local System
Distributed Link Tra... Maintains links be... Started Automatic Local System
Distributed Transac... Coordinates tran... Manual Network S...
DNS Client Resolves and cac... Started Automatic Network S...
Extended Standard

- Scroll down to find **Buffalo Vault Service**.
- Right click the **Vault Service** that you want to start, and then select **Start**. If Start is disabled, you need Windows administrator rights to start Vaults. These rights are not the same as the Buffalo Surveillance Server rights that are set for processing data or adding media to the Information Repository.

Linux

- Simply reboot your system to start Vaults.

Advanced users can open a shell and type **sudo /sbin/service VaultSvc start**.

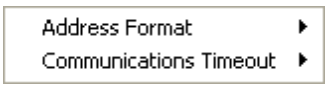
Macintosh

- Simply reboot your system to start Vaults.

Advanced users can open a shell and type **sudo /sbin/SystemStarter start VaultSvc**. You will be prompted to enter your administrator password.

Options

From the **Options** menu of Vault Admin 204, you can set the Address Format 260 and Communications Timeouts 260 for Vaults.



Options: Address Format

Address Format refers to the format in which client addresses are displayed in Vault Admin.

Change the Address Format when you want to see Current Client 263 addresses displayed in an alternate format.

Follow the steps below.

- Select **Options** > **Address Format** from the menu bar at the top of the Vault Admin 204 main window.

- Select the view that you prefer. You have the option of choosing between three alternate formats for viewing the client computer names. Each option provides a different level of detail:

View Formats	Results
Dot Notation	The client computers' network address is displayed.
Full Domain Name	The client computer is displayed along with the domain and subnet names.
Host Name Only	The client's host name and port number are displayed

Right-clicking the mouse anywhere on the active window activates a Refresh button. Use this button to redisplay the active clients any time.

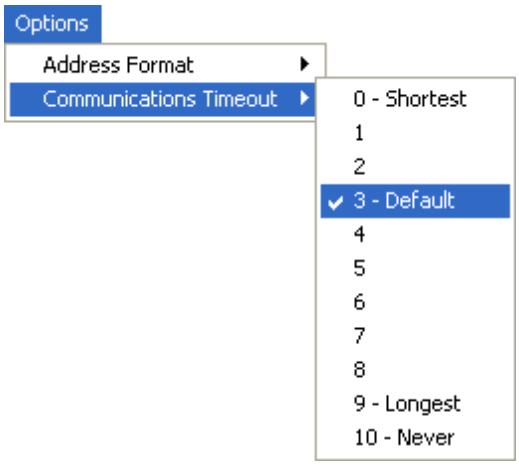
Options: Communications Timeout

If Buffalo Surveillance Server is unable to connect with a computer in the network or communications are interrupted during a job, Buffalo Surveillance Server will wait a predefined period of time before completely dropping the connection. This period of time is called the "communications timeout."

The Communications Timeout feature enables you to set a higher or lower timeout wait value to better suit network conditions should communications between various Buffalo Surveillance Server components fail or hang during a job. Network failures are usually due to network conditions that occur from time to time.

To make changes to the connection time out value, follow the steps below.

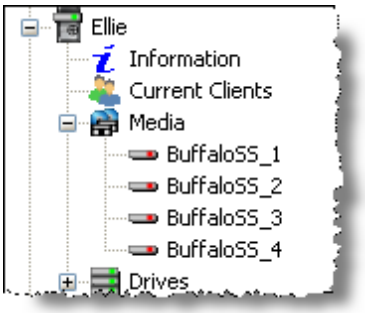
- Select **Options** > **Communications Timeout** from the menu at the top of the Vault Admin 204 main window.
- Click the value you wish to set as the new time out value for the Information Repository. Values are relative.



The Communications Timeout value impacts several Information Repository components.

Vault Details

The active Vaults in the network are represented in the left frame of the Vault Admin 204 main window.



- Click the plus box ⊞ in front of a Vault name to open the subcategories associated with the Vault and to activate the icons in the Vault Admin toolbar 205. Certain icons in the toolbar will be active only when a Vault, Media, or Drive is selected.

Advanced View

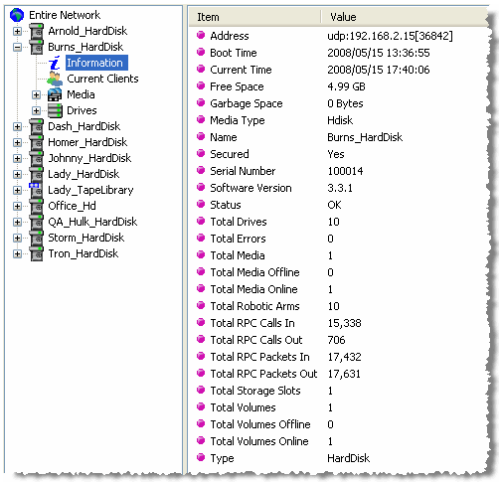
Some features within Vault Admin have an advanced view option that presents details about the item being queried.

- Select **View** > **Advanced** from the Vault Admin menu to activate this option.

Information

This view displays overall Vault details.

- In the left frame of the Vault Admin 204 main window, click the **Information** icon under a Vault to see the Vault's details (as listed below).



Address: The network address of the Vault selected and the Vault's port number.

Boot Time: The date and time of the Vault's last startup cycle.

Current Time: The time on the Vault's internal clock. This is mapped to the Vault's host computer.

Free Space: The amount of free space available in the Vault.

Garbage Space: The amount of purgeable space in the Vault (this will normally be zero on hard disk based Vaults).

Media Type: Additional information about the storage device technology used by the Vault. (Hard disk based Vaults always have a Media Type of Hdisk while tape-based Vaults list the type of tape technology being used, such as DLT or LTO).

Name: The name of the Vault selected.

Secured: Whether the Vault is secured or unsecured.

Serial Number: A number created at the time of manufacture that maps to a right-to-use license.

Software Version: The version of Buffalo Surveillance Server software being used by the Vault.

Status: The status of the Vault regarding serious error conditions or media requests.

Total Drives: The total number of storage media drives within the Vault's storage device.

It is important to note that hard disk Vaults are mapped differently than other Vault storage devices. The Vault drive to physical drive representation may be a one-to-one mapping or may be virtualized so that the ratio may be higher or lower.

Total Errors: A cumulative list of errors since the Vault has been on-line. This number is reset whenever the Vault is restarted.

Total Media: The amount of media being tracked and managed by the Vault. Includes all on-line and off-line media being tracked.

Total Media Off-line: Includes only formatted media that is housed outside the Vault's storage device and that is still being tracked by the Information Repository.

Total Media On-line: Includes only formatted media housed within the Vault's storage device that is being tracked by the Information Repository.

Total Robotic Arms: The number of robotic devices within the Vault's storage device that are used to move media from storage slots to drives and back. Hard disk based Vaults usually have as many robotic arms as drives. Other storage devices, like tape-based devices, usually have only one robotic arm.

Total RPC Calls In: The number of remote procedural calls that have been made to the Vault since its latest startup cycle.

Total RPC Calls Out: The number of remote procedural calls made by the Vault since its latest startup cycle.

Total RPC Packets In: The number of network packets that have been received by the Vault since its latest startup cycle.

Total RPC Packets Out: The number of network packets that have been sent by the Vault since its latest startup cycle.

Total Storage Slots: Storage slots are areas where media is stored in a Vault's storage device when it is not in a media drive. In tape and other physical media-based storage devices, the total storage slots number is fixed by the storage device. In hard disk Vaults the number is usually mapped to the number of virtual media units set up in the Vault.

Total Volumes: The number of volumes on media being tracked and managed by the Vault. It includes all on-line and off-line media being tracked.

Total Volumes Off-line: Includes only volumes on formatted media that is housed outside the Vault's storage device, yet is still being tracked by the Information Repository.

Total Volumes On-line: Includes only volumes on formatted media housed within the Vault's storage device that is being tracked by the Information Repository.

Type: The storage device technology the Vault uses.

Current Clients

This view displays details about the computers with which the Information Repository is

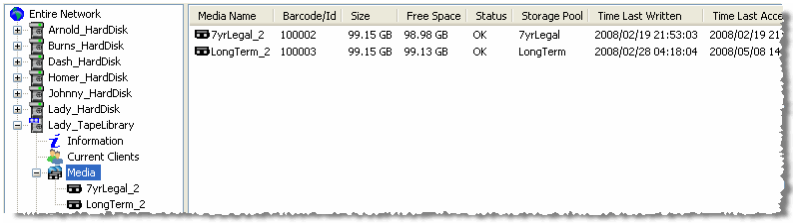
currently working.

- In the left frame of the Vault Admin 204 main window, click the **Current Clients** icon under a Vault to see a list of computers with which the Vault is currently working.
- Use **Options > Address Format** 260 to modify the view of the details in the right frame.

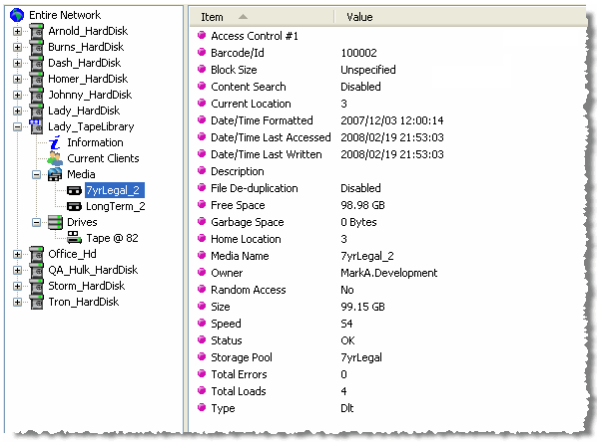
Media

This view displays a list of the media in the Vault that you select and, after you select a particular unit of media, the specific details about the unit of media.

- In the left frame of the Vault Admin 204 main window, click the **Media** icon under a Vault to see a list of media in the Vault.



- Click a particular unit of media from the directory tree or from the right frame to see detailed information about the media, as illustrated below:



Access Control #1 (ACL): The first of sixteen controls that can be assigned to the selected unit of media.

Barcode/ID (tape media only): The barcode number or label assigned to the media selected. (If the storage device has a barcode reader, the data for this field is assigned by the physical barcode label on the media, and any other information in this field is ignored by the Information Repository.)

Block Size: The block size used by the media unit selected.

Content Search: Indicates whether content search is enabled.

Current Location (tape media only): The location at which the media is located currently.

Date/Time Formatted: Information about the most recent time the media unit was formatted for use by the Buffalo Surveillance Server.

Date/Time Last Accessed: Information about the last time the media unit was accessed for use by the Information Repository.

Date/Time Last Written: Information about the last time data was written to the selected media unit.

Description: The description entered in the Prepare Media 235 window.

File De-duplication: Indicates whether de-duplication is enabled.

Free Space: The amount of space on the media unit that is available for use.

Garbage Space: The amount of space on the media unit that is used by data that is eligible to be purged from the Information Repository.

Home Location (tape media only): The slot in a drive to which media is assigned.

Media Name: The name of the media unit selected. The media name is part of the media label .

Owner: Displays the user logged onto the Information Repository during the media format for this media unit.

Pathname (hard disk media only): The directory pathname of the subdirectory where the media unit's space actually resides.

Random Access: Indicates if random access of the media is permitted.

Size: The capacity of the media unit selected.

Speed: A performance rating utilized by Buffalo Surveillance Server by which different types of media are rated by their access and read/write performance. Hard disk is considered the highest performance media and DDS-2 tape is (currently) the lowest performing media.

Status: The overall health and usability of the media.

Storage Pool: The name of the storage pool, if any, to which the media belongs.

Total Errors (tape media only): The number errors the selected media unit has generated.

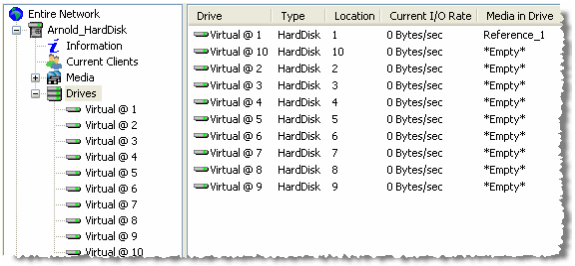
Total Loads (tape media only): The number of times the selected media unit has been loaded into a drive.

Type: The storage device technology utilized by the media (hard disk, tape, etc.)

Drives

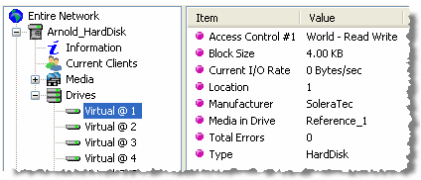
This view displays a list of drives in the Vault that you select, and after you select a particular drive, the specific details about the drive.

- In the left frame of the Vault Admin 204 main window, click the **Plus** icon to the left of the Drives icon under a Vault to expand the list of the drives within a Vault.


Entire Network
Arnold_HardDisk
Information
Current Clients
Media
Drives
Virtual @ 1
Virtual @ 2
Virtual @ 3
Virtual @ 4
Virtual @ 5
Virtual @ 6
Virtual @ 7
Virtual @ 8
Virtual @ 9
Virtual @ 10
Drive Type Location Current I/O Rate Media in Drive
Virtual @ 1 HardDisk 1 0 Bytes/sec Reference_1
Virtual @ 10 HardDisk 10 0 Bytes/sec *Empty*
Virtual @ 2 HardDisk 2 0 Bytes/sec *Empty*
Virtual @ 3 HardDisk 3 0 Bytes/sec *Empty*
Virtual @ 4 HardDisk 4 0 Bytes/sec *Empty*
Virtual @ 5 HardDisk 5 0 Bytes/sec *Empty*
Virtual @ 6 HardDisk 6 0 Bytes/sec *Empty*
Virtual @ 7 HardDisk 7 0 Bytes/sec *Empty*
Virtual @ 8 HardDisk 8 0 Bytes/sec *Empty*
Virtual @ 9 HardDisk 9 0 Bytes/sec *Empty*

- Click to see a list of drives within the Vault and information about the drives.

- Click (to highlight) a particular drive, from the directory tree or from the right frame, to see detailed information, as listed below, about the selected drive.



Access Control #1 (ACL): The first of a possible sixteen controls that can be assigned to the selected unit of media.

Block Size: The block size employed by the media when it is accepting data.

Current I/O Rate: The rate at which data is being written to media.

Last Cleaning (tape media only): The last time that a unit of media has been physically cleaned.

Location: The slot number in the drive that the unit of media occupies.

Manufacturer: The name of the company that manufactured the drive.

Media in Drive: The name assigned to the unit media.

Total Errors: The number errors a unit of media unit has generated.

Total Loads (tape media only): The total number of times a unit of media has been physically loaded into the drive.

Type: The type of drive.

Vault Admin Command Line for Advanced Users (VaultAdminCl)

This section is intended for advanced Buffalo Surveillance Server users. Use the command line interface ONLY if you are an advanced Buffalo Surveillance Server user and are familiar with command line environments. Otherwise, use a Buffalo Surveillance Server application.

Buffalo Surveillance Server Command Line Applications Overview

Buffalo Surveillance Server command line applications provide an alternative way for users to execute much of the functionality that can be executed using Buffalo Surveillance Server applications. Because Buffalo Surveillance Server command line application functionality is similar to application functionality, you can gain a better understanding of the dynamics of each command line application by referring to the user's guide section for the application that performs the same operations as the command line in which you are interested.

To see a list of available options, use ***<executable name>* -usage** in any of the command line executables.

About VaultAdminCl

Use VaultAdminCl to manage media and Vaults in your Information Repository.

- To execute Vault Admin tasks 204, ensure that the folder to which you have installed the Buffalo Surveillance Server is in your command path, open a command prompt, and run **VaultAdminCl** at the command line. As needed, use the commands listed below. See Vault Admin: Manage Vaults 204 for documentation covering Vault Admin tasks.

Command Line Options

As needed, append the following options to the execution path. When you run VaultAdminCl, the command line is formed as follows:

```
VaultAdminCl <option>
```

Option	Description
-input_pathname <*pathname*>	Contains the input list of commands.
-output_pathname <*pathname*>	Defines the path to the file containing the output results.
-usage	Lists all valid parameters.
-version	Displays the current version information.

Interactive Commands and their Arguments

After starting the application, you can enter the following arguments, one at a time, at the prompt. When entering arguments, you can simultaneously enter required variables. You can also enter just a given argument and wait for the system to prompt you for its required variables.

Argument	Description
clist	Lists all current clients for the selected Vault.
close	Closes the connection to the selected Vault.
diag	Sets the diagnostic mode for the selected Vault.
drives	Lists drives for selected Vault.
dstat <*drive name*>	Displays information about a selected drive. If the name is not listed on the command line, you will be asked to provide the name.
errorlog <*pathname*>	Sets the Vault's error log pathname. **Valid values:** • pathname – the new error log pathname.
format <*notation type*>	Enables users to set the current client address format. **Valid notations:** • dot – the client computer network address will be displayed. • host – the client computer name will be displayed along with domain and subnet names. • full – The client's host name and port number will be displayed.
help | ?	Shows valid usage for commands. You can use only one command at a time.
license <*pathname*>	Sets the pathname for Information Repository license. **Valid values:** • pathname – the new pathname to the license file.
load <*argument*>	Loads the media for the selected Vault.

Argument	Description

	Arguments for a tape Vault with a mailslot:
	• load from mail slot? <yes | no>
	  • if loading from mailslot, mailslot loc
	  • if not loading from mailslot, storage loc
	Arguments for a tape Vault with no mailslot:
	• storage loc
	• force reindex of media? <yes | no>
	Arguments for a hard disk Vault:
	• media name
	• media in default location <yes | no>
	• if not in a default location, pathname
	• force reindex of media? <yes | no>

media	Lists the media for the selected Vault.
mstat <*name*>	Displays media status. • name – the name of the media for which status will be displayed.
name <*name*>	Sets the name for the Vault. **Valid values:** • name – the new name for the Vault.
prepare <*arguments*>	Prepare media for the selected Vault. **Arguments for a tape Vault with a mailslot:** • media name • Barcode/ID • description • storage pool • content searching <yes | no> • file de-duplication <yes | no> • load from mail slot? <yes | no>

Argument	Description
	• if loading from mailslot, mailslot loc • if not loading from mailslot, storage loc • prepare media now? <yes | no> **Arguments for a tape Vault with no mailslot:** • media name • Barcode/ID • description • storage pool • content searching • file de-duplication • storage loc • prepare media now? <yes | no> **Arguments for a hard disk Vault:** • media name • description • storage pool • media size • content searching • file de-duplication • if not in default location, store media in default location <yes | no> • prepare media now? <yes | no>
quit	Exits the application.
reload <*arguments*>	Reloads media for the selected Vault. **Valid arguments:** • media name • force reindex of media? <yes | no>?

Argument	Description
secure <*Boolean*>	Secures/unsecures the selected Vault from any media eject or load commands. You must have administrator rights to execute this command. **Valid values:** • on • off
select <*Vault name*>	Selects the Vault that will be operated upon.
shut <*type of shutdown*>	Closes the selected Vault. You must have administrator access to execute this command. **Valid values:** • extended – Closes the Vault after all clients and callbacks have been serviced. Closes all open databases. • normal – Closes the Vault and all current connections. • restart – executes a normal shutdown and then restarts the Vault. • emergency – Closes the Vault immediately.
stat	Displays status information of current Vault.
timeout <*number*>	Sets the communication timeout value. **Valid values:** • 1 - 10 (where "0" is the shortest, "9" is the longest, and "10" is never.
unload <*arguments*>	Unloads media for the selected Vault. **Valid arguments:** • media name • media tracking? <yes | no> • if keeping track, enter storage location • update the media if needed? <yes | no>
Vaults	Displays a list of registered Vaults.
vexer <*arguments*>	Run the canned Vault exercises.

Argument	Description
	Valid arguments: • storage pool • scale factor • minimum file size • maximum file size • maximum sleep time • check file? <yes | no> • stop test on error? <yes | no> • time to run <hh:mm:ss>

Search for, Review, and Export Surveillance Videos and View Live Feeds: SVM

The Surveillance Video Manager (SVM) application enables powerful searching, reviewing, and exporting of video that is being managed in the Information Repository, including metadata, to any computer in your network. It also enables you to view live video feeds 284 from configured RTSP enabled IP cameras. While very powerful, the Surveillance Video Manager is very easy to use.

Overview

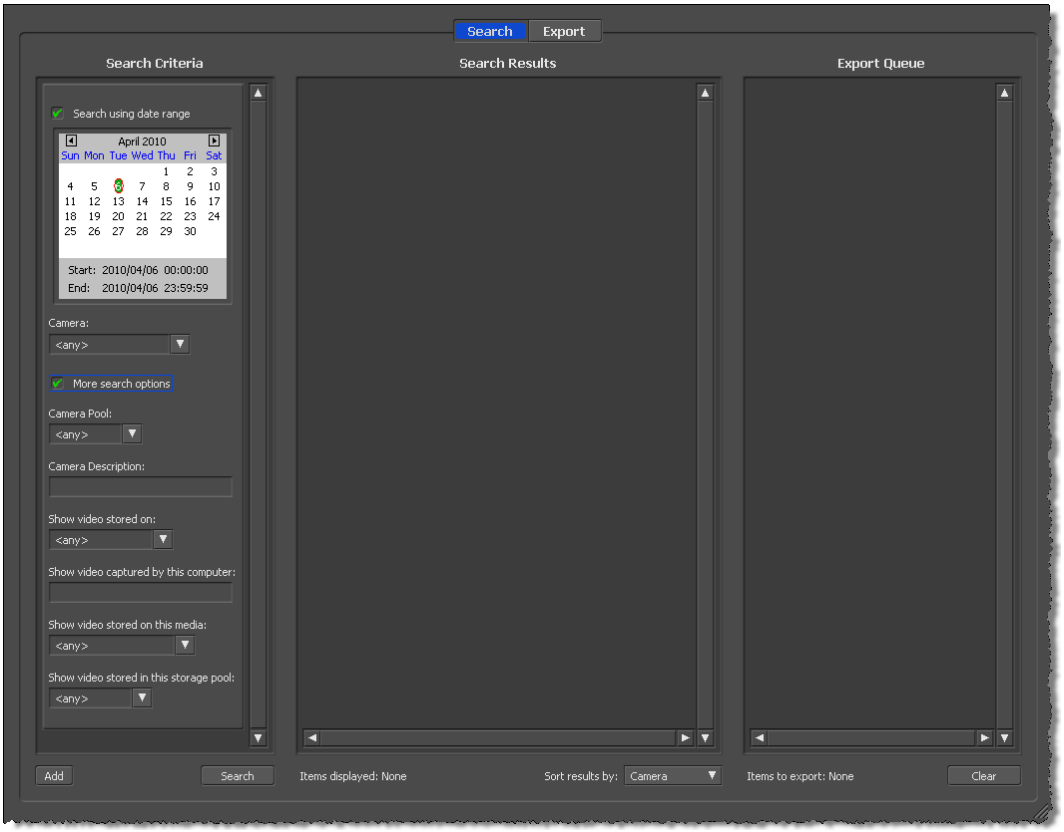
This section outlines the main parts of the application window.

Buffalo Surveillance Server jobs feature two phases: **Search** and **Export**. The **Search** and **Export** buttons at the top of the application enable you to toggle between the **Search** and **Export** windows. Use **Search Results** and the **Export Queue** in the **Search** window to find videos and place them in the **Export** window. Use the **Export** window when you are ready to export all of the videos you have found.

To play back videos in the Buffalo Surveillance Server media viewer, you will need VideoLAN's VLC media player (VLC 1.1.11) or Apple QuickTime version 7 (free or Pro) installed on your computer. **If you are viewing primarily MPEG-4 videos, which are commonly used for surveillance video, VLC is best.**

To utilize low resolution companion files, you will need to enable them when you set up your recording policies. On the Processing tab in the Camera Policies application (available in Advanced mode 51), ensure that **Generate low resolution proxy** is selected. If this option is not enabled, low resolution companion files and thumbnails will not be available.

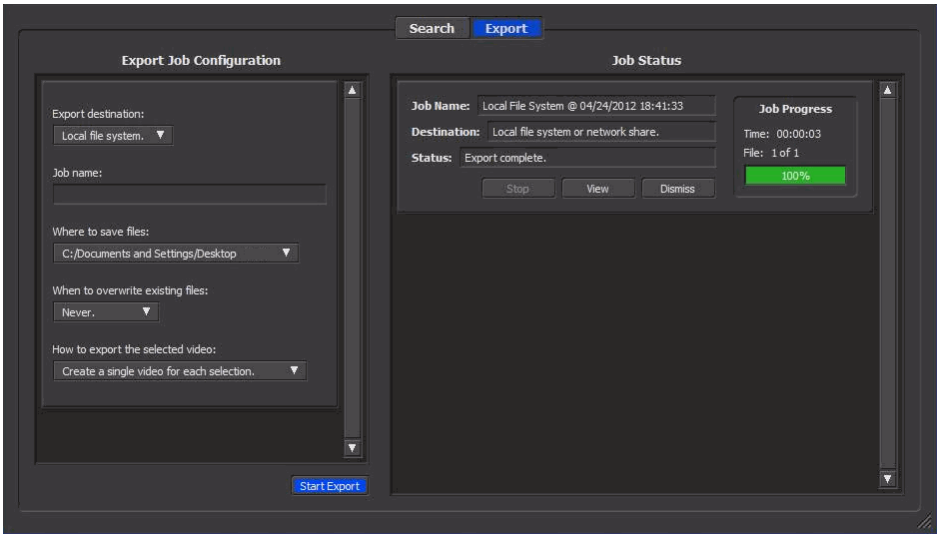
Search Window



The **Search** window is divided into three main sections:

- The **Search Criteria** frame enables you to select and enter minimal or extensive search criteria as needed to obtain relevant search results.
- The **Search Results** frame displays found videos. You can double-click a thumbnail to view a low resolution proxy version on the Media Viewer. When you want to export only part of a clip, the Media Viewer enables you to choose the part for export.
- The **Export Queue** frame displays the videos selected for export.

Export Window



The **Export** window is divided into two main sections:

- The **Export Job Configuration** frame enables you to select the specific parameters for the videos you will export. You can export to a local file system, a Rimage system, or through FTP. Each type of export has its own configuration options. Select **[Start Export]** when you are ready to export videos.
- The **Job Status** frame displays results as videos are being exported.

How to Search for & Export Videos - Overview

Follow the steps below to search for and retrieve videos:

1. Launch the Surveillance Video Manager 273.

2. Search for and Select Videos & Clips for Export 286.

It is best to avoid using characters that the Buffalo Surveillance Server interprets as wildcards or as otherwise special. If you need to use a character literally that the Buffalo Surveillance Server uses as a wildcard, the character must be preceded by an escape character (\ ).

For example, *This is an example using escape characters in a statement with a wildcard*.

The following are Buffalo Surveillance Server wildcards and special characters:
?, *****, **#**, **!**, **~**, **^**, **&**, **[ ]**, **{ }**, ****, **"**.

See the Advanced Wildcard Functionality section for details about wildcards.

3. Set Export Options & Export Videos and Clips 319.

Launch the Surveillance Video Manager

To launch a Buffalo Surveillance Server application, see the instructions for the OS below.

Windows

- To launch a Buffalo Surveillance Server application from the Windows desktop, click **Start** > **All Programs** > **BUFFALO**, and then select the application to run.

Macintosh

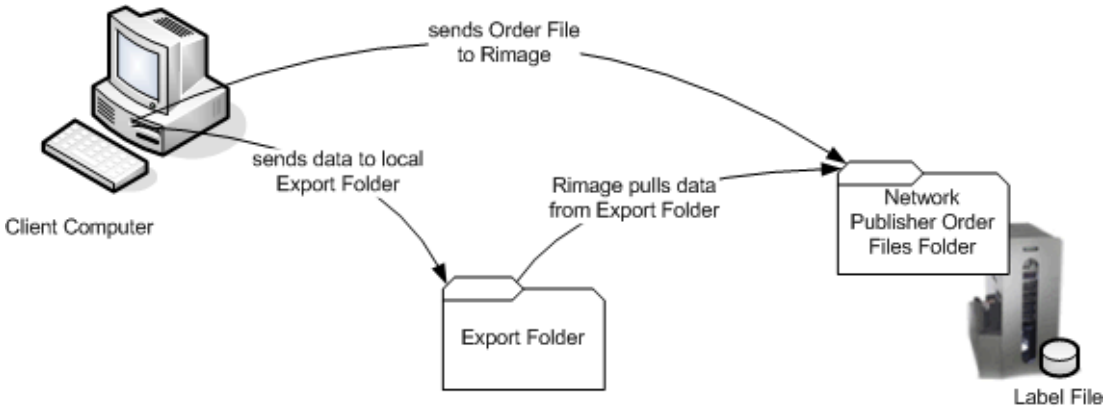
- To launch a Buffalo Surveillance Server application on a Macintosh, browse to **Applications** > **BUFFALO** > **Bin**, and then select the application to run.

Configure Rimage to Publish Videos

To export to Rimage, you need to ensure that required system folders are in place and system permissions are set correctly. You must then enable Rimage export using the **Rimage Configuration** window. Once enabled, **Rimage** will be activated as an option in the **Where do you want to export the files** field in **Export Job Configuration**.

How Buffalo Surveillance Server Interacts with Rimage

As illustrated in the diagram below, when an Export job is executed, Buffalo Surveillance Server sends data to the Export folder in the local file system and an Order file to the Network Publisher Order Files folder on the Rimage computer. Rimage takes care of the rest. In the diagram, the label file resides on the Rimage computer; however, it can just as easily reside on any networked computer for which Rimage has access and security permissions.


sends Order File to Rimage
sends data to local Export Folder
Rimage pulls data from Export Folder
Client Computer
Network Publisher Order Files Folder
Export Folder
Label File

Folder Access and Permissions Settings

To enable Rimage export functionality, Rimage Network Publisher must be installed and running somewhere in the network and the Rimage Orders folder must be visible from the computer on which Buffalo Surveillance Server is running. Ensure the following:

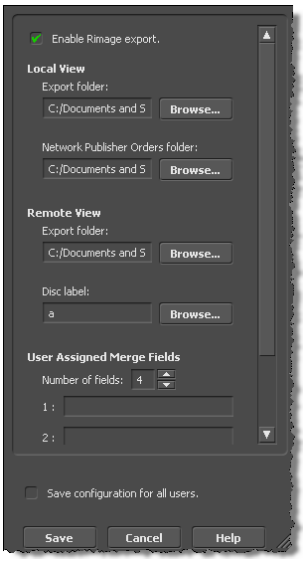
- There is a Rimage export folder on the Buffalo Surveillance Server client computer.
- Buffalo Surveillance Server users have write access to the export folder and Rimage has at least **read** permissions.
- Security is set so that domain users have **full control**.

Configure Rimage Export using the Rimage Export Configuration Window

The **Rimage Export Configuration** dialog box is accessible from the **Tools** menu option. It enables you to use Buffalo Surveillance Server to export to a Rimage system.

If you do not enable Rimage export, Rimage will not be activated as an option in the **Where do you want to export the files?** field in **Export Job Configuration**.

- To enable export to Rimage, select **Tools** > **Rimage Configuration**. The **Rimage Configuration** window appears:



- Check **Enable Rimage export** to enable this feature. The fields in the window will become active.

- Enter values in the fields listed below:

Field	Details
Local View: Export folder	The view of the export folder on the Buffalo Surveillance Server client computer from the Buffalo Surveillance Server client computer. "Client computer" refers to the computer on which the Buffalo Surveillance Server client is running.
Local View: Network Publisher Orders folder	The Network Publisher Order Files folder resides on the Rimage computer. This is the Buffalo Surveillance Server client computer's view of the export folder on the Rimage computer. "Client computer" refers to the computer on which the Buffalo Surveillance Server client is running.
Remote View: Export folder	The view of the export folder on the Buffalo Surveillance Server client computer from the Rimage computer. This is the export folder on the client computer on which Buffalo Surveillance Server is running. The path you enter needs to indicate how this folder is viewed by the Rimage system.

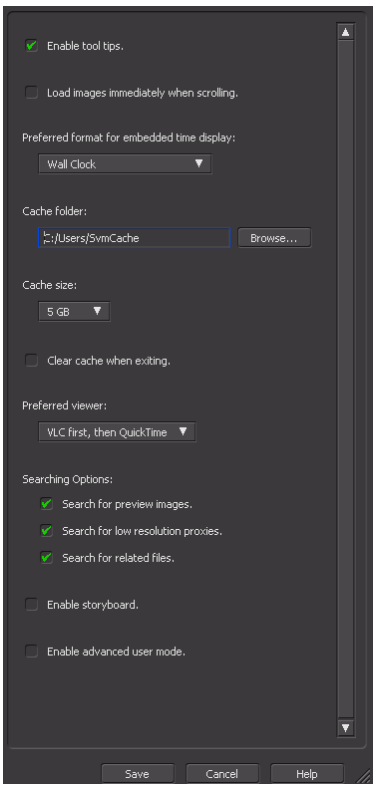
Field	Details
Remote View: Disc label	The client computer's view of the path from which Rimage gets the label file for the discs to be burned. "Client computer" refers to the computer on which the Buffalo Surveillance Server client is running. For Buffalo Surveillance Server to interact with the disc label that Rimage will use when creating discs, the disc label must already be created.
User Assigned Merge fields: Number of fields	The number of user defined fields (0 - 30). Use these fields to add label merge text to the label that will be used for your media. Every field you define here will be added to **Export Job Configuration**, where you can define the contents of each field. If you enter a number manually, you must press the **Tab** key or the **Enter** key for the new number to take effect. Ensure that the fields you enter here match the fields on the disc label Rimage will use. If the fields do not match, disc labels will not print correctly.
Save configuration for all users	Check this box to keep the same values for all logged-in users who use Buffalo Surveillance Server on the current computer.

- Click **Save. Rimage** will be activated as an option in the **Where do you want to export the files?** field in **Export Job Configuration**.

Set User Preferences

Use the **User Preferences** window to define some default settings, such as if tool tips display, if a time-code displays in the **Media Viewer,** where the cache folder is located, and how large the cache folder is.

- In the tool bar of the main window, click **Tools** > **User Preferences** to launch the **User Preferences** window:



- Select or enter values in the fields listed below:

Field	Details
Enable tool tips	When checked, tool tips appear in the window whenever you hover the mouse cursor over a button, field, or other control.
Load images immediately when scrolling	When checked, thumbnail images are loaded as you scroll down the Search Results pane. If de-selected, thumbnail images load only when scrolling stops.
Preferred format for embedded time display	Select the type of time code that displays in the **Media Viewer**.

Field	Details
Cache folder	Define the folder where Buffalo Surveillance Server caches search results. Similar to the cache of a web browser, the cache stores found thumbnails, low resolution proxy videos, and other associated files and enables you to replay already found videos more quickly.
Cache size	Define the size of the cache where Buffalo Surveillance Server caches thumbnails, low resolution proxy videos, and associated files. When full, contents will be overwritten in the order of oldest to newest. If unsure about cache size, leave it set to the default value. If you find that Buffalo Surveillance Server often needs to retrieve videos from storage rather than from the cache, increase the cache size.
Clear cache when exiting	Select for Buffalo Surveillance Server to empty the cache when the application closes.
Preferred viewer	Select the type of video viewer. To play back videos in the Buffalo Surveillance Server media viewer, you will need VideoLAN's VLC media player (VLC 1.1.11) or Apple QuickTime version 7 (free or Pro) installed on your computer. **If you are viewing primarily MPEG-4 videos, which are commonly used for surveillance video, VLC is best.** Be sure to restart the Surveillance Video Manager if you change the preferred viewer.
Searching Options	Search the ingest server for video files, such as preview images, low resolution proxies/companion files, or other related files. Select search options **Search for preview images** or **Search for low resolution proxies** if your ingest server supports preview images or low resolution proxies. Video surveillance files typically do not have other related files associated with them. Searches with multiple search options selected can be time intensive because several passes through the ingest server are taking place.

Field	Details
	▸ Select **Search for preview images** to perform an exhaustive search and return all preview images. ▸ Select **Search for low resolution proxies** to perform an exhaustive search and return all low resolution proxy videos. ▸ Select **Search for related files** to perform an exhaustive search and return all related files (including high resolution originals, preview images, low resolution proxy videos, and any other related files in the Information Repository).
Enable Storyboard	Select to display a storyboard strip in the Media Viewer. The storyboard displays still images from the video. Click an image to jump to that point in the video.
Enable advanced user mode	Select to view advanced information such as camera URL, run time, size, and frame size in the Search Results pane for each video clip.

▸ Click **Save** to save your settings when finished.

View Live Video Feeds

You can access the Buffalo Surveillance Server Live Viewer from the **Tools** menu of the Buffalo Surveillance Server Surveillance Video Manager application.

In the Buffalo Surveillance Server Live Viewer application, view live video feeds directly from RTSP enabled IP cameras.

Before seeing live feeds, cameras must be configured in the Camera Policies application as part of your Information Repository. To be able to view live feeds in the Live Viewer, select the Live View URL check box and enter the URL when adding the camera configuration.

To be able to view and record live video feeds, you must ensure that RTSP is enabled on your IP camera. See your camera's documentation for details on enabling RTSP.

Most cameras can manage a single live feed while video streams are being captured. More than a single live feed on any given camera affects performance.

The Live Viewer window is divided into two main areas: the panel on the right side contains controls to select the cameras whose feeds you want to view and the layout of the viewer window (the number of rows and columns of camera views) displayed at one time. There are also controls to access the pan, tilt, zoom, and focus of cameras (if cameras support it, and if the control is enabled when configuring the Camera Policies application).

The Live Viewer main menu bar includes a **File** menu to close the application, a **View** menu to access commands for tool tips, save, rename, and delete layouts, and a **Help** menu.

The view frames in the left side of the window display the live feeds from the cameras selected. By default, the Live Viewer is set to display feeds from four cameras, arranged in two rows of two across. Change that default layout by using the **View** drop down list at the top of the right-hand control panel.

In the Live Viewer, each camera view frame includes a **Title** bar. Right-click on the camera **Title** bar to display a right-click menu with the following menu items:

Wiper - Select for Wiper sub-menu containing duration options for the wiper to clean. Duration options are: 10 seconds, 1 minute, 15 minutes, and 30 minutes, 1 hour, and 2 hours. Also access the **Stop** menu item. (Displays only if camera has wiper functionality.)

Day/Night Mode - Select for the Day/Night Mode sub-menu containing mode options of Day, Night, and Auto. If Auto is selected the camera automatically adjusts to determine the correct mode. (Displays only if camera has Day/Night Mode functionality.)

Select - Highlight the camera view frame. PTZ and Volume options are available, if applicable.

Close - Close the camera view (or click the **Close** button on the Title bar).

The screenshot below shows the default layout, with feeds from four cameras displayed

Double-click the **Title** bar of the view frame for the camera to quickly change the default layout to a single camera view layout. Double-click again to return to the original layout.

View a feed from a camera 140

View feeds from a camera pool 141

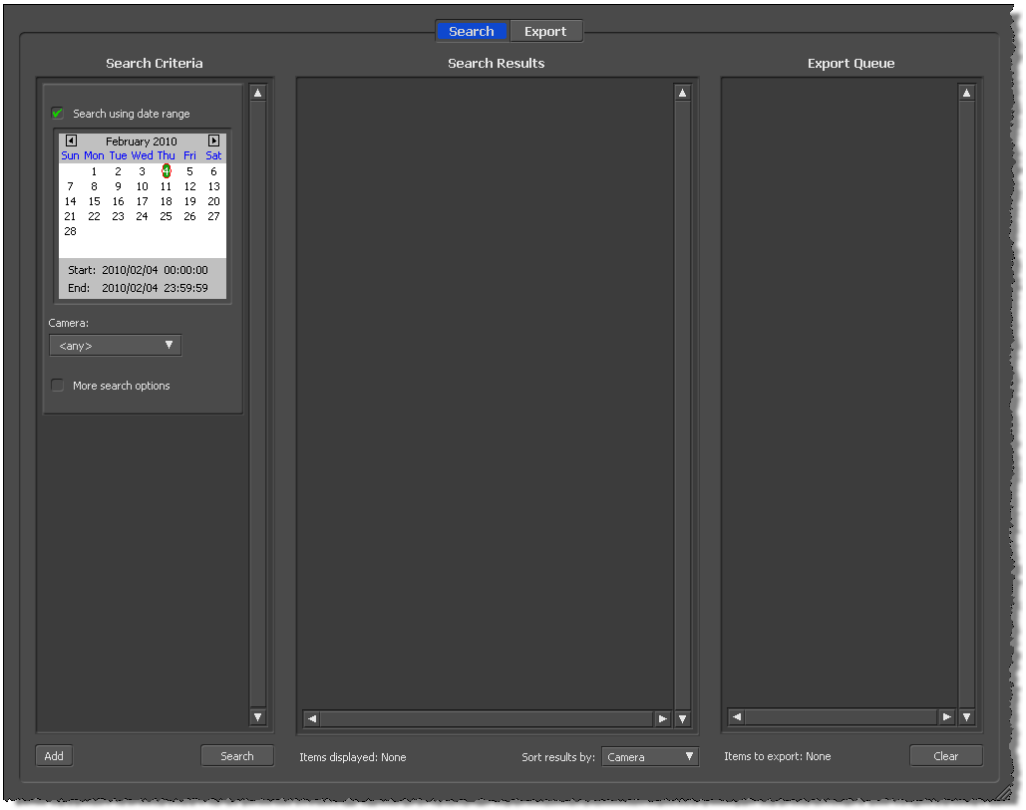
Change, save, or delete a live view layout 142

Control camera pan, tilt, zoom, and focus 143

Search for, Review, and Select Videos

The Buffalo Surveillance Server is designed to support powerful searching and reviewing of surveillance video. It also enables you to export entire videos or just clips of interest. Finding, reviewing, and selecting videos is the first part of the video exporting process. Follow the steps below to search for and review video clips. Then, if you want to export what you have found, work through the subsequent section: Set Export Options & Export Videos 319.

- Launch 277 Surveillance Video Manager (SVM). The Surveillance Video Manager will open and be ready to accept search criteria:



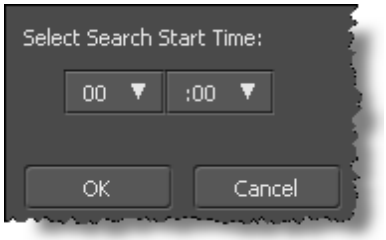
Searching

Buffalo Surveillance Server enables you to create focused search requests. Define fewer search parameters for a broader set of results. Define more parameters for the system to return more relevant search results.

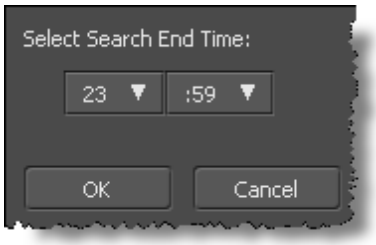
- To search for video captured on a particular date or between particular dates and times, select **Search using date range**. Selecting **Search using date range** activates the calendar control.

When activated, the calendar control is interactive for you to select start and end dates and times to search. As shown above, the top of the calendar control displays the months and dates. The bottom half of the calendar control features start and end times.

- Use the calendar to select a search date range: Click the start date and select **Start Date**; click the end date and select **End Date**. (Start and end date can be the same.)
- Use the calendar to select a search time range within selected search dates:
- Click the start date and select **Start Time**.



- Select a start time, and then click **OK**.
- Click the end date and select **End Time**.



- Select an end time, and then click **OK**.

To search all stored video regardless of date and time, de-select the **Search using date range** check box.

- In the **Camera** field, select the camera that captured the video to search, or leave the Camera field set to <any>. If set at <any>, video streams captured from all cameras are searched.
- Select the **More Search Options** check box. The options selected narrow down videos to be returned. Narrower searches return more relevant search results. Select from the options listed below.

To ensure that search results include all contiguously captured video, do not limit your search to a specific NAS device, computer, or unit of media.

Pull-down fields support the use of wildcards. For example, if you type Axis*, Buffalo Surveillance Server returns results from all Axis cameras. See the section titled Advanced Wildcard Functionality, Wildcards for File Searching for details about using wildcards.

Field	Purpose and Directions
Camera	Select the camera name from the pull-down list or type a camera name. When typing a camera name you can use wildcard functions.
Camera Pool	A camera pool is a user defined virtual grouping of cameras to search video from specified cameras. For example, a camera pool called "Doors" that includes all of the cameras that cover the doors of your establishment. When you need to see who's come or gone, select the "Doors" camera pool as a search criteria, and only video captured from cameras in the "Doors" camera pool are included. There is no limit to the number of camera pools your Buffalo Surveillance Server solution may have. If you know a video is located in a specific camera pool, select the camera pool using the pull-down list. ▸ Select the camera pool from the pull-down list or type a camera pool name and wildcard.
Camera Description	Limit your search to a specific camera by entering the camera's description. ▸ Type the description for the camera that captured the video to search. No results are returned if a camera description is not part of the solution.
Show video stored on	Limit your search to a particular device in your Buffalo Surveillance Server solution. ▸ Select the device that you want from the pull-down list or enter the device name and a wildcard.
Show video captured from this computer	Limit your search to the particular host computer to which video was originally captured. When a computer name is entered, only video stored from that computer is listed. This field may contain only a portion of the computer name and is always case sensitive. Wildcards are permitted.

	▸ To select a specific computer, type the name of the computer into the text box. No results are returned if a camera description is not part of the solution.
Show video stored on this media	Increase the speed of your search by limiting the search to a particular unit of media. ▸ Select the unit of media to search from the pull-down list or type a media name and a wildcard.
Show video stored in this storage pool	Limit your search to only a specific storage pool. ▸ Select the storage pool from the pull-down list or type a storage pool name and a wildcard.

▸ With user defined search metadata criteria, click **Add** for additional search criteria. Add as many search criteria blocks with as much additional criteria as you need to obtain the level of refinement you want.

The Buffalo Surveillance Server supports searches using wildcards. For details, see the section titled Advanced Wildcard Functionality.

- After setting search criteria, click **[Search]** to execute a search of all of your stored videos for videos that matched the criteria you have defined. Results will appear in the **Search Results** frame:

Search
Export
Search Results
Axis211 @ 2010/02/17 17:25:42
CameraName: Axis211 CameraDescription: In
Host: Diego FrameSize: 640 x 480
BeginTimeDate: 2010/02/17 17:25:42 RunTim
Axis211 @ 2010/02/17 17:30:42
CameraName: Axis211 CameraDescription: In
Host: Diego FrameSize: 640 x 480
BeginTimeDate: 2010/02/17 17:30:42 RunTim
Axis211 @ 2010/02/17 17:35:43
CameraName: Axis211 CameraDescription: In
Host: Diego FrameSize: 640 x 480
BeginTimeDate: 2010/02/17 17:35:43 RunTim
Axis211 @ 2010/02/17 17:40:43
CameraName: Axis211 CameraDescription: In
Host: Diego FrameSize: 640 x 480
BeginTimeDate: 2010/02/17 17:40:43 RunTim
Items displayed: 573
Sort results by: Camera

When no thumbnail image is available, a placeholder image will appear. The same placeholder image is used as SVM is retrieving thumbnails.

Unless you have checked **Load images immediately when scrolling** in User Preferences 281, thumbnail images will be loaded only when you stop scrolling.

Search Results

Search results comprise several types of information: The thumbnail image you see is captured from the beginning of the captured video. To the right of each thumbnail, in bold green text, you will find the name of the camera that captured the video, the date the video was captured, and the time when each capture began. Additional information includes Camera Description, Host, Frame Size, Begin Date, and Run Time.

Beneath the camera and video information, you will notice a sunken horizontal bar. This is a histogram. When motion detection information has been captured by a motion detection enabled camera supported by the Buffalo Surveillance Server, the histogram indicates the motion detection threshold was reached. It enables you to skip past sections of video in which no motion was detected. When supported motion detection cameras are utilized, this bar is populated with histogram information and will look something like this:

Line height and color indicate the magnitude of the motion detected (based on how your motion detection enabled camera is configured). For information about how Buffalo Surveillance Server automatically configures supported cameras, see the Customization Settings section titled AXIS Camera Motion Detection Configuration.

When no motion has reached the detection threshold, the histogram will be empty. Where no motion detection data has been gathered, whether because the camera does not support motion detection or had a technical problem, the histogram will be filled with a black bar.

- In the Search Results frame, click the thumbnail image for the file you want to view, or click a point of interest in the histogram. Either of these actions will open the Media Viewer with the original video file ready for playback and review.

The Media Viewer

The **Media Viewer** enables you to play back and review videos at variable speeds, search metadata content, navigate to a particular point in a file, clip particular parts of videos for export, and send clips to the **Export Queue**.

Once the Media Viewer is opened, you will notice another histogram depicted above the timeline “scrubber” bar (shown above). This histogram is different from the one on the Search Results window in that this histogram is representative of all of the found videos for the one particular camera chosen from the Search Results window.

Each Media Viewer will, upon the selection of any video clip within the Search Results window, allow the playback and review of the **entire timeline** that was specified in the Search Criteria frame for each individual camera. For example, if you entered in a date range of July 20 to July 26 and the “Back Lot” Camera Pool, you may have a large number of thumbnail Search Results to choose from. Once you click on any of those thumbnail items, a Media Viewer will display the entire timeline from July 20 to July 26 for the camera that was associated to the thumbnail selected

This gives the user greater flexibility to search back and forth within the timeline of the requested search selection and to view the histogram associated to the entire timeline of that selected camera with the timeline indicator moved to the selected time.

If you leave the current Media Viewer open and go back and click on another thumbnail, the Media Viewer will regain focus and the timeline indicator will move to the new point in time selected. If this new thumbnail was associated with a camera other than one originally selected, a new Media Viewer will open to the point in time associated to this thumbnail image.

You can have as many Media Viewers open as you need, and each will depict the entire timeline associated to the Search Criteria date and time request. This enables you quickly and easily identify the specific areas of interest within found video files.

The Media Viewer comprises the controls that you will find in any popular video viewer (such as volume, play, stop, skip forward, skip back, beginning, and end) and the following additional controls:

This bar is a histogram. When motion detection information has been captured by a motion detection enabled camera supported by the Buffalo Surveillance Server, the histogram indicates when motion was detected. Unlike the histograms for individual clips in the Search Results frame, the histogram in the Media Viewer displays all of the motion for the **entire timeline** of search results for a particular camera. The histogram enables you to skip to the sections of video which are of most interest.

Line height and color indicate the magnitude of the motion detected (based on how your motion detection enabled camera is configured). For information about how Buffalo Surveillance Server automatically configures supported cameras, see the Customization Settings section titled AXIS Camera Motion Detection Configuration.

When no motion has reached the detection threshold, the histogram will be empty. Where no motion detection data has been gathered, whether because the camera does not support motion detection or had a technical problem, the histogram will be filled with a black bar.

The pointer on the **timeline** indicates which part of the clip is being displayed. Click, hold, and drag the pointer to progress or rewind the video. Click to the left of the pointer to rewind the video one second at a time. Click to the right of the pointer to advance the video one second at a time. When you click and hold in either direction, the pointer will move automatically one second at a time.

The number to the left is a time code that indicates where the pointer is in the video (and which part is being displayed). The number to the right indicates the total length of the video. The vertical green line to the left indicates where the clip begins. The vertical green line to the right indicates where the clip ends. Only the segment of video between the vertical green lines will be exported. By default, the lines mark the beginning and the end of the video; they can be adjusted using the scissor icons.

If you set the beginning of the clip to within one second of the beginning of the file and one second of the end of the file, the entire original full-resolution file will be exported.

Clicking the small golden triangle enables you to select an embedded time display type (when they are available for the video you are working with).

The **scissor icons** enable you to select clips from the video. Numbers indicate beginning and ending times. Click the left icon to denote the beginning of the clip. Click the right icon to denote the end of the clip. You can select and export multiple clips from a single instance of the Media Viewer.

The control on the left (when available), **Jog shuttle**, enables you to fast forward or fast reverse the video clip. Simply click, drag, and hold the orange control left or right to respectively rewind or fast forward. The control on the right, **Playback speed**, enables you to run the video faster or more slowly. Simply drag the orange control left to play more slowly or right to play more quickly.

The Media Viewer also supports the following case sensitive keyboard navigation:

Action	Key Combination
Move one second forward	➔ (right arrow)
Move one second backward	← (left arrow)
Skip forward 30 seconds	**Shift** + ➔ (right arrow)
Skip backwards 30 seconds	**Shift** + ← (left arrow)
Toggle play/pause	**[Space Bar]**
Skip to "in" point	**Shift** + **I**

Action	Key Combination
Skip to "out" point	**Shift** + **O**
Set "in" point	**I**
Set "out" point	**O**
Increase playback speed	**J**
Decrease playback speed	**L**
Stop playback	**K**

- To select the clip you want to export, place the cursor where you want the clip for export to begin, and then click the left scissor icon; then, place the cursor where you want the clip for export to end, and then click the right scissor icon. You can repeat this process to export as many clips from a file as you need. However, before selecting and exporting a second clip from a file, you will need to export the currently selected clip by selecting **[Export]**.

- Once you have selected the part of the video you want to export, click **[Export]**. The clip will be sent to the **Export Queue**:

Once a clip is in the **Export Queue**, you still have the option of changing which part of the video will be exported. Simply click the video in the **Export Queue**. The Media Viewer will again appear. After you have made your desired changes, click **[Commit]** to save changes, and then close the Media Viewer window.

- Once you have selected all of the videos and files you want to export and they are in the **Export Queue**, click **[Export]** at the top of the main window to activate the **Export** window. Follow the directions in the next section, **Set Export Options and Export Video Files**, to complete the export process.

Metadata Extensions Configuration

Extended metadata searching in the Surveillance Video Manager requires metadata that can be collected at ingest only if MetadataExtensions.cfg is configured correctly for Camera policies. In short, the metadata you ingest using Camera policies will be searchable using the Surveillance Video Manager. Therefore, metadata extensions for Camera policies and the Surveillance Video Manager are all covered here together.

The Metadata tab and metadata search options will appear in the Camera Policies application and the Surveillance Video Manager respectively only if there is a MetadataExtensions.cfg file in <install-dir>**\Config**.

The MetadataExtensions.cfg file must be on every computer on which a user would edit or modify the recording policy. If not, the metadata values could be lost.

When you create, configure, and implement a MetadataExtensions.cfg file, the Metadata tab will appear in Camera Policies. It will contain the Query blocks listed in the IngestMdExt block (see details below):

Sample String Label
This field can be left blank ("") or pre-populated with a value.
Sample Pathname Label
This field can be left blank ("") or pre-populated with a value.
Browse...
Sample Choice Label
Sample "Choice".
Sample Checkbox Label
Sample Spin Label
26

Metadata search options will be available in the Surveillance Video Manager to enable searches using metadata associated with already captured videos.

When you ingest metadata, special characters normally interpreted as wildcards (?, *, #, !, ~, ^, &, [ ], { }, \, ") are **not** interpreted as wildcards. When you search for metadata, however, wildcards are recognized. Consequently, if metadata that you ingest contains characters that are normally interpreted as wildcards, when you search for metadata you need to use the escape character (\) to denote that the wildcard is intended literally, not as a wildcard. For example, if you ingest 16*37 as metadata, and you then want to search for this expression, you would search using 16*13.

The search type options will be identical to those you defined in the ModMdExt block (see details below).

Create a MetadataExtensions.cfg

You can create MetadataExtensions.cfg using any text editor. Once created, it needs to be added to the following path: <install-dir>**\Config**.

MetadataExtensions.cfg is block structured text file. At the end of this section, you will find a sample MetadataExtensions.cfg. You can implement the file as is (at the path noted above) to see how it works or modify the file to meet your own criteria and then implement it. MetadataExtensions.cfg comprises three Blocks (IngestMdExt, SearchMdExt, and ModMdExt) which comprise one or more Query blocks each.

Pay particular attention to braces [ ]; there needs to be an opening brace after "IngestMdExt" and a closing brace after its last Query block; an opening brace after "SearchMdExt" and a closing brace after its last Query block; and an opening brace after "ModMdExt" and a closing brace after its last Query block.

Query block statements describe the controls that will appear on the application. These can include any number of string fields, check boxes, spin controls, pathname fields, and choice controls. Each Block can have any number of Query blocks. Its best to ensure that the IngestMdExt block and SearchMdExt contain the same Query blocks since the Buffalo Surveillance Server will search for only ingested metadata. However, if you prefer, the Query blocks contained in SearchMdExt can be limited to a subset of those you have in IngestMdExt. In this case, you will be able to search only based on the Query blocks listed in SearchMdExt.

If a Query block contains an error, the entire metadata extension block (IngestMdExt or SearchMdExt) will be ignored.

Metadata Extension Block Structure

The following example is only for the sake of illustration. Note that tokens can not be used in Query blocks indiscriminately. Each Query block supports only specific tokens. See **Valid Token/Values for Query Blocks** below for details.

```
<block identifier> #  This identifies the beginning of the Block.
[ # This is the opening brace for the Block.

 Query
 [
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
 ]

 Query
 [
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
 ]
] # This is the closing brace for the Block.
```

Blocks

The following are the Blocks used in MetadataExtensions.cfg.

Block Identifier	Description
IngestMdExt	Identifies the beginning of the metadata extensions block for Buffalo Surveillance Server ingesting and capturing applications. May not contain a SearchMdExt block or ModMdExt block. Required.
SearchMdExt	Identifies the beginning of the metadata extensions block for Buffalo Surveillance Server search and retrieve applications. It may not contain an IngestMdExt block or ModMdExt block. Required.
ModMdExt	Identifies the beginning of the "edit metadata" metadata extension block for Buffalo Surveillance Server search and retrieve applications. May not contain an IngestMdExt block or SearchMdExt block. Required.

Block Identifier	Description
Query	Identifies the beginning of a Query block contained within a metadata extensions block. Required. As illustrated in the examples below, Query blocks must be contained within metadata extension blocks (SearchMdExt and IngestMdExt).

Valid Token/Values for Query Blocks

The tokens in the table below can be used only in Query blocks. Although the IngestMdExt block, SearchMdExt block, and ModMdExt block use the same types of Query blocks, each must have its own individual Query blocks.

It is best to avoid using characters that the Buffalo Surveillance Server interprets as wildcards or as otherwise special. If you need to use a character literally that the Buffalo Surveillance Server uses as a wildcard, the character must be preceded by an escape character (\ ).

For example, *This is an example using escape characters in a statement with a wildcard*.

The following are Buffalo Surveillance Server wildcards and special characters: **?**, *****, **#**, **!**, **~**, **^**, **&**, **[ ]**, **{ }**, ****, **"**.

See the Advanced Wildcard Functionality section for details about wildcards.

Query block Type	Valid Token/Values	Description
Checkbox	Name = <*character string*>	The metadata item's name. Required Default = ""
	Type=Checkbox	The Query type.
	Label = <*character string*>	The label for the control as it will appear in the application. Default = ""

Query block Type	Valid Token/Values	Description
	DefaultValue = <*Boolean*>	The value that will be loaded into the control by default. Valid values = true | false Defaults = true (checked)
	Description = <*character string*>	The tooltip for the control. Default = ""
Choice	Name = <*character string*>	The metadata item's name. Required Default = ""
	Type=Choice	The Query type.
	Label = <*character string*>	The label for the control as it will appear in the application. Default = ""
	DefaultValue = <*number*>	The value that will be loaded into the control by default. Valid values = the number of the entry in the pull-down list Default = the first choice listed. If the DefaultValue for a Choice block is greater than the number of Choices entered, the entire MetadataExtensions block will be ignored.
	Description = <*character string*>	The tooltip for the control. Default = ""
	Choice = <*character string*>	A choice statement that can be selected. Must have at least one Choice. Can be reused as many times as needed.
Pathname	Name = <*character string*>	The metadata item's name.

Query block Type	Valid Token/Values	Description
		Required Default = ""
	Type=Pathname	The Query type.
	Label = <*character string*>	The label for the control as it will appear in the application. Default = ""
	DefaultValue = <*character string*>	The value that will be loaded into the control by default. Valid value= a string Default = ""
	BlankValueOk = <*Boolean*>	Indicates whether the value may be left blank. Valid for String and Pathname only. Valid values = true | false. Default = true
	Description = <*character string*>	The tooltip for the control. Default = ""
Spin	Name = <*character string*>	The metadata item's name. Required Default = ""
	Type = Spin	The Query type.
	Label = <*character string*>	The label for the control as it will appear in the application. Default = ""
	DefaultValue = <*number*>	The value that will be loaded into the control by default. Valid values = a number between the LowerLimit and UpperLimit Default = the lower limit

Query block Type	Valid Token/Values	Description
		If the DefaultValue for a Spin block is not between the LowerLimit and UpperLimit, the entire MetadataExtensions block will be ignored.
	Description = <*character string*>	The tooltip for the control. Default = ""
	LowerLimit = <*number*>	The lower limit for the spin control. Default = 0
	UpperLimit = <*number*>	The upper limit for the spin control. Valid only for Spin. Default = lower limit + 100
String	Name = <*character string*>	The metadata item's name. Required Default = ""
	Type = String	The Query type.
	Label = <*character string*>	The label for the control as it will appear in the application. Default = ""
	DefaultValue = <*character string*>	The value that will be loaded into the control default. Valid values = a string Defaults = ""
	BlankValueOk = <*Boolean*>	Indicates whether the value may be left blank. Valid for String and Pathname only. Valid values = true | false. Default = true
	Description = <*character string*>	The tooltip for the control.

Query block Type	Valid Token/Values	Description
		Default = ""

Sample "Generic" MetadataExtensions.cfg

```
# This is a sample of an MetadataExtensions.cfg file.
#
IngestMdExt # Required: This identifies the beginning of the metadata extension
block for Target & Process.

[  # This is the opening brace for the IngestMdExt block.

 Query
 [
        Name          = Name1
        Type          = String
        Label         = Sample String Label
        DefaultValue  = This field can be left blank (\"\") or pre-populated with
a value.
        BlankValueOk  = false
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name2
        Type          = Pathname
        Label         = Sample Pathname Label
        DefaultValue  = This field can be left blank (\"\") or pre-populated with
a value.
        BlankValueOk  = false
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name3
        Type          = Choice
        Label         = Sample Choice Label
        DefaultValue  = 2
        Description   = This is a sample of the \"Description\" field.
        Choice        = Sample \"Choice\".
        Choice        = Sample \"Choice\".
        Choice        = Sample \"Choice\".
 ]

 Query
 [
        Name          = Name4
        Type          = Checkbox
        Label         = Sample Checkbox Label
        DefaultValue  = true
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name5
        Type          = Spin
        Label         = Sample Spin Label
        DefaultValue  = 26
        Description   = This is a sample of the \"Description\" field.
        LowerLimit    = 0
```

```
        UpperLimit    = 100
 ]

] # This is the closing brace for the IngestMdExt block.

SearchMdExt # Required: This identifies the beginning of the metadata extension
block.

[  # This is the opening brace for the SearchMdExt block.

 Query
 [
        Name          = Name1
        Type          = String
        Label         = Sample String Label
        DefaultValue  = This field can be left blank (\"\") or pre-populated with
a value.
        BlankValueOk  = false
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name2
        Type          = Pathname
        Label         = Sample Pathname Label
        DefaultValue  = This field can be left blank (\"\") or pre-populated with
a value.
        BlankValueOk  = false
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name3
        Type          = Choice
        Label         = Sample Choice Label
        DefaultValue  = 2
        Description   = This is a sample of the \"Description\" field.
        Choice        = Sample \"Choice\".
        Choice        = Sample \"Choice\".
        Choice        = Sample \"Choice\".
 ]

 Query
 [
        Name          = Name4
        Type          = Checkbox
        Label         = Sample Checkbox Label
        DefaultValue  = true
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name5
        Type          = Spin
        Label         = Sample Spin Label
        DefaultValue  = 26
        Description   = This is a sample of the \"Description\" field.
        LowerLimit    = 0
```

```
        UpperLimit    = 100
 ]

] # This is the closing brace for the SearchMdExt block.

ModMdExt # Required: This identifies the beginning of the metadata extension block
for Search & Retrieve.

[  # This is the opening brace for the ModMdExt block.

 Query
 [
        Name          = Name1
        Type          = String
        Label         = Sample String Label
        DefaultValue  = This field can be left blank (\"\") or pre-populated with
a value
        BlankValueOk  = false
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name2
        Type          = Pathname
        Label         = Sample Pathname Label
        DefaultValue  = This field can be left blank (\"\") or pre-populated with
a value
        BlankValueOk  = false
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name3
        Type          = Choice
        Label         = Sample Choice Label
        DefaultValue  = 2
        BlankValueOk  = true
        Description   = This is a sample of the \"Description\" field.
        Choice        = Sample \"Choice\".
        Choice        = Sample \"Choice\".
        Choice        = Sample \"Choice\".
 ]

 Query
 [
        Name          = Name4
        Type          = Checkbox
        Label         = Sample Checkbox Label
        DefaultValue  = true
        Description   = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name          = Name5
        Type          = Spin
        Label         = Sample Spin Label
        DefaultValue  = 26
        Description   = This is a sample of the \"Description\" field.
```

```
        LowerLimit    = 0
        UpperLimit    = 100
  ]
] # This is the closing brace for the ModMdExt block.
```

Using Wildcards for Searching and Filtering

Wildcards enable you to select multiple files with a single specification:

- **File filter wildcards** are for creating file and directory filters and searching for files in the Information Repository.
- **Content searching wildcards** are for content searching of the Information Repository as well as for content criteria filtering using the Data Service Policies Criteria tab[157].

Wildcards for File Searching

Buffalo Surveillance Server enables you to use wildcards when you are searching for stored video files. Wildcards for searching work on file and directory names.

Wildcards for File and Directory Filtering, File Searching, and Vault, Media Name, Storage Pool, and Metadata Fields

Buffalo Surveillance Server enables you to use wildcards when creating file and directory filters as well as when searching for files. Wildcards for file filters operate on filenames; directory filters operate on directory name. Wildcards for searching work on file and directory names.

You can also use wildcards for the Vault, Media Name, and Storage Pool fields in the Source tab and Destination tab of Data Services Policies and Destination tab of Camera Policies. See respective Source or Destination tabs for details on how to utilize filters in the Vault, Media Name, Storage Pool fields.

Wildcards can be used in combination with one another. See the last row of the table below for examples.

Unless otherwise noted, searching is not case sensitive.

These wildcard operators will not work for content searching.

To obtain predictable results when using wildcards for metadata, it is best to avoid using ***** and #.

Operators

Following are all of the wildcard operators you can use when creating file or directory filters or carrying out file searches. The wildcard operators below will not work for content searching.

Wildcard	Description
? Any single character in a name	**? Substitutes for any single character and can be combined to denote multiple characters.** If used in a pathname, it cannot replace a forward slash (/). Use **?** for specific alternative spellings. **?** substitutes for a single character; **??** substitutes for two characters; **???** substitutes for three characters, and so on. Only names with characters equal to the number of ? used are processed. For example, **cell?** substitutes for all names containing **cell**+**<one additional character>**. For example, cells and cello but not cell. You can use ? within or at the end of a phrase. For example, **.xl?** substitutes for only names containing **.xl**+**<a third character>**, such as .xls, .xlr, and so on; **wom?n** substitutes for only names containing **wom**+**<a third character>**+**n**, such as woman or women; **carbon fib??** substitutes for only names containing **carbon fib**+**<two characters>**, such as carbon fiber or carbon fibre.
*** Zero or more characters in a name	***** Substitutes for zero or more characters.** Can be used in truncation and for multiple characters. If used in a pathname, it cannot replace a forward slash (/). Use ***** for all possible alternative spellings and an unlimited number of characters within a name.

Wildcard	Description
	For example, **h*ophilia** substitutes for all names containing **h**+**<any character or number of characters>**+**ophilia**, such as haemophilia, hemophilia, or h.123ophelia; **behavi*r** substitutes for all names containing **behavi**+**<any character or number of characters>**+**r**, such as behaviour, behavior, or behavi123.zr; **patent*** substitutes for only all names containing **patent**+**<a character or any number of characters>**, such as patents, patentable, patented, patent123, and so on; **patent*.jpg** substitutes for only all names containing **patent**+**<a character or any number of characters>**+**.jpg**, such as patents.jpg, patentable.jpg, patented.jpg, patent123.jpg, etc; ***.jpg** substitutes for only all names containing **<any character or set of characters>**+**.jpg**.
***?** One or more characters in a name	***??** Substitutes for a minimum number or more characters. If used in a pathname, it cannot replace a forward slash (/). The minimum number of characters matched is equal to the number of ? that follow the *. ***??** substitutes for at least two characters; ***???** substitutes for at least three characters, and so on. You can use *? within or at the end of a word. For example, **carbon fib*??** substitutes for carbon fiber, carbon fibre, as well as carbon fibers, carbon fibres, and carbonfib123. Only names containing at least the number of ? present are processed; names with more letters are also processed. For example, **actua*????** substitutes for all filenames containing **actua**+**<four or more additional characters>**, such as actuarial, actuaries, actualization, actua12345.xls but not actual.
# Zero or more characters in a pathname, including slashes	Similar to *, Substitutes for zero or more characters in a pathname; valid for use only within a pathname. Can be used to denote the forward slash (/).

Wildcard	Description
	For example, **document#Q42007** substitutes for **document**+**<any character, including slashes or no character>**+**Q42007**, such as documentQ42007, documentsQ42007, document1Q42007, and document/Q42007.
#? One or more characters in a pathname, including slashes	Substitutes for a minimum number or more characters in a pathname; valid for use only within a pathname. Matches the forward slash (/). Similar to *?, the minimum number of characters matched is equal to the number of ? that follow the #. For example, **document#?Q42007** substitutes for **document**+**<any character, including slashes>**+**Q42007**, such as documentsQ42007, document/Q42007, and documents/123Q42007.
[ ] Set of characters	Substitutes for a set and includes any one of the characters in the set. Or, an ASCII sequential run of characters may be indicated by using a hyphen to separate the first character in the sequence from the last character in the sequence: [<beginning character>-<end character>]. For example, **[afe]** matches a, f, or e; **[a-m]** matches any single character in the range of a to m.
[!] Characters not in set	Substitutes for any one character that is not specified in the set. Or, an ASCII sequential run of characters may be indicated by using a hyphen to separate the first character in the sequence from the last character in the sequence: [!<beginning character>-<end character>]. For example, **[!afe]** substitutes for any single character other than a, f, or e; **[!a-m]** substitutes for any single character that is not in the range of a-m.

Wildcard	Description
! Entire pattern not in set	When **!** is the first character of a pattern, the entire pattern is omitted. For example, a search using **!primary** will return everything except "primary". When using this wildcard in extended metadata searches, it is best to use "is equal to". To obtain predictable results, avoid "contains", "does not contain", and "is not equal to".
**** Escape next character	Causes the character immediately following the backslash to be treated as a literal character. Normally, this is used with one of the wildcard characters to denote that character itself, not its wildcard expression meaning. For example, if you wanted to process literally Accounting*2007, you would enter **Accounting*2007** since * is normally interpreted by the Information Repository as a wildcard.
Multiple wildcards	Along with using wildcards individually, you can also combine them to create very powerful filters and search criteria. For example, **[abc]*.xls** substitutes for any phrase beginning with **a**, **b**, or **c**+**<any character or number of characters>**+**.xls**; **[!abc]*.xls** substitutes for any phrase not beginning with **a**, **b**, or **c**+**<any character or number of characters>**+**.xls**; **and*.???** substitutes for **and**+**<any number of characters>**+**.** +**any three characters**

More examples of wildcards

The examples in this table enable you to contrast how wildcards function differently from one another.

Wildcard	Sample Phrase	Matches	Does not match
? Any single character in a name	path?.doc	path1.doc paths.doc pathq.doc etc.	path path/.doc path.doc path_sample.doc etc.
***** Zero or more characters in a name	path*.doc	path.doc path1.doc path_sample.doc etc.	path path/1.doc path1.docs etc.
***?** One or more characters in a name	path*?.doc	path1.doc paths.doc path_sample.doc etc.	path path.doc path/.doc etc.
# Zero or more characters in a pathname, including slashes	path#.doc	path.doc path1.doc path_sample.doc path/1.doc etc.	path path1.docs sample/path.doc etc.
#? One or more characters in a pathname, including slashes	path#?.doc	path1.doc path_sample.doc path/1.doc etc.	path path.doc path1.docs etc.
[ ] Set of characters	path[1-3].doc	path1.doc path2.doc path3.doc	path path.doc path.docs path4.doc path5.doc

Wildcard	Sample Phrase	Matches	Does not match
			patha.doc pathq.doc etc.
[!] Characters not in set	path[!1,2,3].doc	path0.doc path4.doc path5.doc patha.doc pathq.doc etc.	path1.doc path2.doc path3.doc path path.doc path.docs etc.
! Entire pattern not in set	!path.doc	all other files in repository	!path.doc

Wildcards for Content Searching

Buffalo Surveillance Server features powerful content searching capability. Data Service Policies [157] features powerful content criteria filtering functionality. See the Data Service Policies Criteria tab [179] for details.

Operators

Following are all of the wildcard operators you can use for content searching or defining criteria for Data Service policies.

.

Use quotation marks when you want treat a phrase as if it is a single word. For example, if you wanted to search for "2007 compliance", you would enter **"2007 compliance"**. Otherwise, Buffalo Surveillance Server will search for all instances of "2007", "compliance", and "2007 compliance".

The wildcard operators below will not work for file/directory filtering and file searches.

Wildcard	Description
? Any single character in a name	**? Substitutes for any single character and can be combined to denote multiple characters.** If used in a pathname, it cannot replace a forward slash (/). Use **?** for specific alternative spellings. **?** substitutes for a single character; **??** substitutes for two characters; **???** substitutes for three characters, and so on. Only names with characters equal to the number of ? used are processed. For example, **cell?** substitutes for all names containing **cell**+**<one additional character>**. For example, cells and cello but not cell. You can use ? within or at the end of a phrase. For example, **.xl?** substitutes for only names containing **.xl**+**<a third character>**, such as .xls, .xlr, and so on; **wom?n** substitutes for only names containing **wom**+**<a third character>**+**n** , such as woman or women; **carbon fib??** substitutes for only names containing **carbon fib**+**<two characters>**, such as carbon fiber or carbon fibre.
*** Zero or more characters in a name**	***** **Substitutes for zero or more characters.** Can be used in truncation and for multiple characters. If used in a pathname, it cannot replace a forward slash (/). Use ***** for all possible alternative spellings and an unlimited number of characters within a name.

Wildcard	Description
	For example, **h*ophilia** substitutes for all names containing **h**+**<any character or number of characters>**+**ophilia**, such as haemophilia, hemophilia, or h.123ophelia; **behavi*r** substitutes for all names containing **behavi**+**<any character or number of characters>**+**r**, such as behaviour, behavior, or behavi123.zr; **patent*** substitutes for only all names containing **patent**+**<a character or any number of characters>**, such as patents, patentable, patented, patent123, and so on; **patent*.jpg** substitutes for only all names containing **patent**+**<a character or any number of characters>**+**.jpg**, such as patents.jpg, patentable.jpg, patented.jpg, patent123.jpg, etc; ***.jpg** substitutes for only all names containing **<any character or set of characters>**+**.jpg**.
***?** One or more characters in a name	***??** Substitutes for a minimum number or more characters. If used in a pathname, it cannot replace a forward slash (/). The minimum number of characters matched is equal to the number of ? that follow the *. ***??** substitutes for at least two characters; ***???** substitutes for at least three characters, and so on. You can use *? within or at the end of a word. For example, **carbon fib*??** substitutes for carbon fiber, carbon fibre, as well as carbon fibers, carbon fibres, and carbonfib123. Only names containing at least the number of ? present are processed; names with more letters are also processed. For example, **actua*????** substitutes for all filenames containing **actua**+**<four or more additional characters>**, such as actuarial, actuaries, actualization, actua12345.xls but not actual.

Wildcard	Description
~ Proximity searches	Proximity searches enable you to search based on whether words are proximate to one another. To do a proximity search use ~ (the tilde symbol) and a value at the end of a phrase. For example, to search for "compliance" and "December" within 10 words of each other in a document use **compliance December~10**.
~ Fuzzy searches	Fuzzy searches enable you to search based on an approximate spelling. To execute a fuzzy search, use ~ (the tilde symbol) at the end of a single term. For example to search for a term similar in spelling to "report" use **report~**. This search will find terms like deport, reports, and reporting. You can also specify the level of required similarity. Using a value between 0 and 1, only terms with a higher similarity will be matched with values closer to 1. For example, **roam~0.8**. The default is 0.5 if a value is not defined.
[] {} Range searches (TO)	Range searches enable you to match documents whose field values are between the lower and upper bound specified by the search. Range searches can be inclusive or exclusive of the upper and lower bounds. Inclusive range searches are denoted by square brackets. Exclusive range searches are denoted by curly brackets. Sorting is done lexicographically. For example, **mod_date:[20020101 TO 20030101]** will find files whose mod_date fields have values between 20020101 and 20030101, inclusive. Range searches are not reserved for only date fields.

Wildcard	Description
	You can also use range searches with non-date fields. For example, **title: {accounting TO sarbanes}**. Will find all files whose titles are between **accounting** and **sarbanes**, but not including **accounting** and **sarbanes**.
^ Boosting a term	Boosting enables you to control the relevance of a document by boosting the value of the specific term you are searching for. To boost a term, use **^** (the caret symbol) with a boost factor (a number) at the end of the term you are searching for. The higher the boost factor number, the more relevant the returned term will be. By default, the boost factor is 1. Although the boost factor must be positive, it can be less than 1 (for example, 0.2). For example, if you are searching for **corporate compliance** and you want the term **compliance** to be more relevant, boost it using **^** along with the boost factor next to the term. You would type the following: **corporate compliance^4**. This will make documents with the term **compliance** appear on the list as more relevant. You can also boost phrase terms by enclosing a phrase in quotation marks. For example, **"corporate compliance"^4 "Second Quarter 2007"**
OR **AND, &&** **+** **NOT, !, -** Boolean operators	Boolean operators allow terms to be combined through logic operators. **AND**, **+**, **OR**, **NOT** and **-** are supported as Boolean operators. Boolean operators must be ALL CAPS). **OR**

Wildcard	Description
	OR links two terms and finds a matching document when either of the terms exist in a document. **||** can be used in place of OR. OR is the default conjunction operator. This means that if there is no Boolean operator between two terms, OR is assumed. For example, to search for documents that contain **corporate compliance** or just **compliance**, you would use **"corporate compliance"** OR **compliance**. The quotes indicate a single phrase. **AND** AND matches documents where both terms exist anywhere in the text of a single document. **&&** can be used in place of AND. For example, to search for documents that contain **corporate compliance** and **Second Quarter 2007** you would use **"corporate compliance" AND "Second Quarter 2007"**. The quotes indicate a single phrase. **+** + (plus symbol) requires that the term after + exist somewhere in a single file. For example, to search for files that must contain **compliance** and may contain **corporate** you would use **corporate +compliance**. **NOT** NOT excludes documents that contain the term after NOT. **!** (exclamation point) or **-** (minus symbol) can be used in place of NOT. For example, to search for documents that contain **corporate** but not **compliance** use, **corporate NOT compliance**.

Wildcard	Description
	NOT cannot be used with just one term. For example, the following search would return no results: NOT compliance **Grouping** If you want to control the Boolean logic for a query, you can use parentheses to group clauses to form sub queries. For example, to search for either **corporate** or **compliance** and **Second Quarter 2007** you would use **(corporate OR compliance) AND "Second Quarter 2007"**. This ensures the phrase after AND must exist and either term within the parentheses may exist. **Field Grouping** Use parentheses to group multiple clauses to a single field. For example, to search for a file that contains both **return** and the phrase **overdue accounts** you would use **title: (+return +"pink panther")**. Notice that the field is followed by a colon.
**** Escaping special characters	Buffalo Surveillance Server supports escaping special characters that are part of the query syntax. The current list of special characters is **+ - && || ! ( ) { } [ ] ^ " ~ * ? : **. To execute a search using the any of these characters literally (in other words, to escape any of these character), use **** before the given character. For example to search for **(1+1):2**, you would use **\(1\+1\)\:2**. If you were to not use the escape character for **(1+1):2**, Buffalo Surveillance Server would search for **(OR 1 OR AND 1 OR) OR : OR 2**.

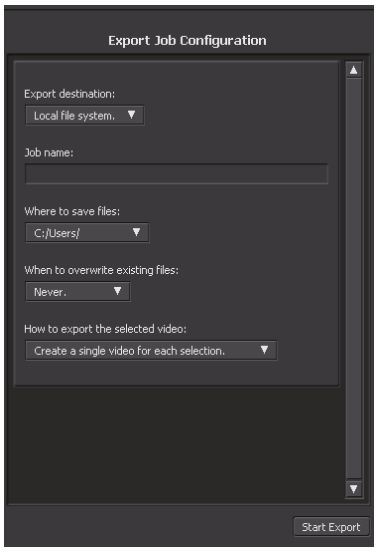
Set Export Options & Export Videos

You will be able to export video only after you have searched for and selected it. See the previous section, Search for, Review, & Select Videos & Clips 286 for details.

Export to Local File System

Export Job Configuration supports several user defined export criteria.

▸ Click **Export** at the top of the SVM application.



Export Job Configuration Fields

▸ Set the criteria for the following fields.

Field	Meaning and Directions
Export Destination	Defines where videos will be exported. ▸ Select **Local File System**. Additional, custom options will be available only when an ExportExtensions.cfg file is in place.
Job name	A user defined field that associates a name with the job. The name you enter here will appear in job logs. If left blank, a default value will be entered. ▸ Enter a job name.

Field	Meaning and Directions
Where to save files	Default Path or **Different location**: You can export data back to its original location or to any other location in the network. ▸ Leave this setting as is to export data to the default path. Or, ▸ To export data to a different location, such as your desktop, select **Different location**. A browser window will display so that you can choose where you want to export files. ▸ Select a destination. ▸ Click **OK**to set your choice.
When to overwrite existing files	Determines whether videos already on the target computer will be overwritten. ▸ Select an option. If a file that is being exported already resides in the directory on the target computer to which you want to export it, there will be a conflict and the file will not be exported. The "target computer" is the computer to which files are to be exported.
How to export the selected video	When you have selected several clips captured from the same camera, Buffalo Surveillance Server can export them as discrete videos or as a single video. ▸ Select an option.

▸ After setting the parameters, click **Start Export** to export videos. Buffalo Surveillance Server begins to export files and a job status box appears in the **Job Status** pane. While the job is running, **Stop** is active.

If you click **Stop** while Buffalo Surveillance Server is exporting files, the export is stopped, and not all of the files in the **Export Queue** are exported. However, files that have already been completely exported will remain on the target computer. Click **Dismiss** to close the job status box.

Problems Exporting?

Click **View** to open a log file that details the export job and what may be causing problems.

To ensure that viable data on networked computers is not accidentally overwritten, existing files on networked computers are not overwritten. If an export job is unsuccessful, as indicated by zero files being retrieved, the failure is most likely due to an unexpected condition, such as there already being a copy of the files on the target computer. Mitigate most error conditions by setting additional export parameters. For example, to overwrite files on a networked computer, select **Always overwrite files** or **Overwrite file only if the stored file is newer**.

Export to FTP site

- Click **Export** at the top of the window. The **Export** window is displayed. The left hand pane enables you to specify the export job configuration.

Fields for Export to FTP site Job Configuration

- Set the criteria for the following fields.

Field	Meaning and Directions
Export Destination	Define where files are exported to. ▸ Select the **FTP site** option.

Field	Meaning and Directions
	When **FTP site** is selected, the fields available change to support FTP.
Job name	A user defined field that associates a name with the job. The name entered here appears in job logs. ▸ Type a job name.
FTP site address	The FTP host name or address. ▸ Type the host name or address.
FTP site user name	User name required to log into the FTP site. ▸ Type the user name to log into the site.
FTP site password	Password required to log into the FTP site. ▸ Type the password to log into the site
Destination folder at FTP site	Destination directory to store the files. ▸ Type the destination path and directory the files should be exported to.

▸ After setting the parameters, click **Start Export** to export videos. Buffalo Surveillance Server begins to export files and a job status box appears in the **Job Status** pane. While the job is running, **Stop** is active.

If you click **Stop** while Buffalo Surveillance Server is exporting files, the export is stopped, and not all of the files in the **Export Queue** are exported. However, files that have already been completely exported will remain on the target computer. Click **Dismiss** to close the job status box.

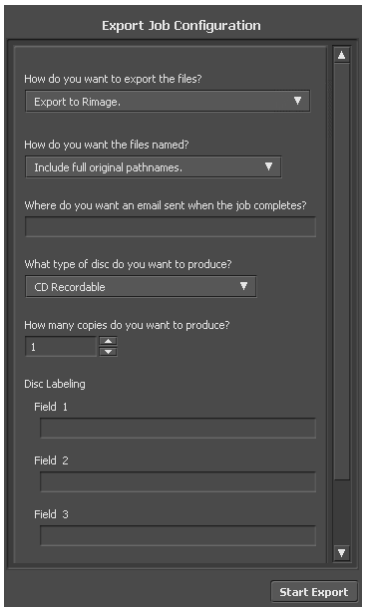
Export to Rimage

This section deals with setting Retrieval Options for exporting to Rimage. The options for export to Rimage appear when **Export to Rimage** is selected.

Export to Rimage works only if the Rimage system and Buffalo Surveillance Server export are configured properly. If you have not done so already, configure Rimage export using **Rimage Export Configuration.**

When exporting to the Rimage, do not stop Buffalo Surveillance Server until all jobs have finished. If stopped, it does not remove temporary files, and they will need to be removed manually. To manually remove temporary files, go to the **Rimage Export** folder, and remove <user name>_<uid>.

- Click **Export** at the top of the window. The **Export** window displays:


Export Job Configuration
How do you want to export the files?
Export to Rimage.
How do you want the files named?
Include full original pathnames.
Where do you want an email sent when the job completes?
What type of disc do you want to produce?
CD Recordable
How many copies do you want to produce?
1
Disc Labeling
Field 1
Field 2
Field 3
Start Export

Fields for Set Retrieval Options to Export to Rimage

- Set the criteria for the following fields.

Field	Meaning and Directions
Export Destination	Define where files are exported to. - Select the **Rimage** option. When **Rimage** is selected, the fields available change to support Rimage.
Job name	A user defined field that associates a name with the job. The name entered here appears in job logs. - Type a job name.
How to name files - Active for only "Different Location" and "Export to Rimage"	Define how selected data is arranged when exported. There are three options:

Field	Meaning and Directions
	• **Include full original pathnames** - This option recreates the source file structure. The exported data, and its file structure matches the file structure of the source from which the files originated. For example, if the directory structure on the source is "C:\Accounting\Marketing\...", the directory structure on the exported data will be "C\Accounting\Marketing\...". • **Include pathnames starting at selected items** - This option creates only the directory structure of the files selected for export. For example, if the source directory structure is "C:\Accounting\Marketing\..." and you select "Marketing", the retrieved data includes only "Marketing" and the files beneath it. "Accounting" are not included. Similarly, if selecting the "Marketing" folder and it contains a folder, say, 2008Q3, then 2008Q3 appears in the exported data at the same file level as "Marketing", not beneath it. Finally, if you select only files, the exported data is comprised of only files. • **Include filenames only** - This option ignores file folders, so the exported data is comprised of only files. **Include filenames only** does not work correctly if selected files have identical names. When files have identical names, use **Include full original pathnames** or **Include pathnames starting at selected items**.
Email address for job completion notice	Define the e-mail address for Rimage to send an e-mail when the Rimage job is finished. ▸ Type a valid e-mail address.
Disc type	Define what type of media Rimage is to produce.
Number of copies	Define how many copies of the data Rimage is to produce. If typing a number manually, press TAB or ENTER for the new number to take effect.
Disc Labeling	Define the information on media labels that Rimage is to produce.

Field	Meaning and Directions
	The number and titles of the fields available depend on the Rimage Export Configuration window. If a field is not present, add it using the **Rimage Export Configuration** window.

- After setting the parameters, click **Start Export** to export videos. Buffalo Surveillance Server begins to export files and a job status box appears in the **Job Status** pane. While the job is running, **Stop** is active.

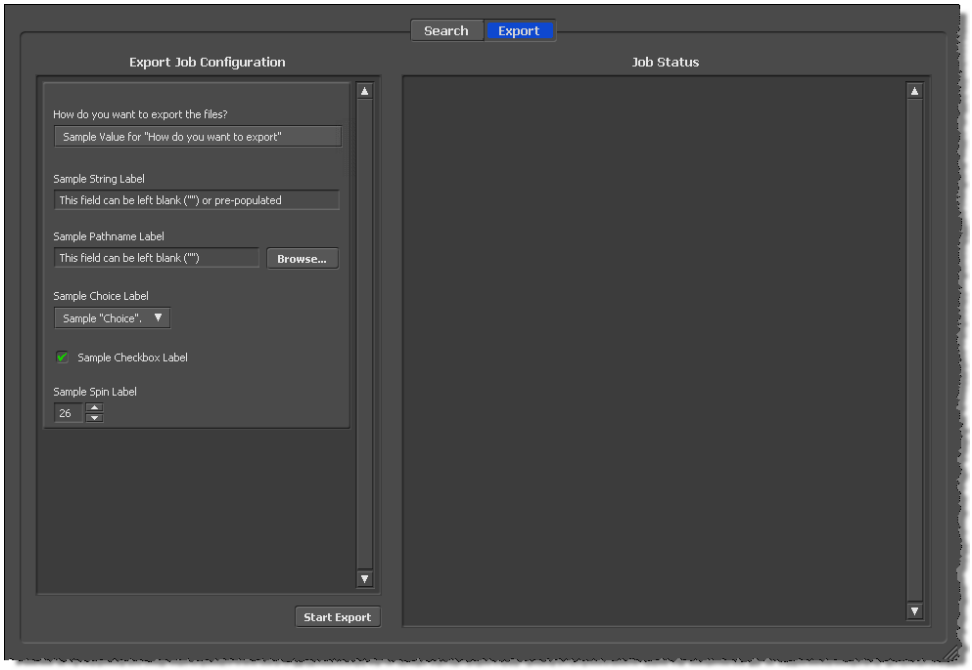
  If you click **Stop** while Buffalo Surveillance Server is exporting files, the export is stopped, and not all of the files in the **Export Queue** are exported. However, files that have already been completely exported will remain on the target computer. Click **Dismiss** to close the job status box.

Customized Export Options

This section covers customized export options for **Export Job Configuration**. Custom options are available only when an ExportExtensions.cfg file is in place. The options in this frame appear when a custom option is available.

Custom export options are customizable via the ExportExtensions.cfg file at <install-dir>\Config.

- Click **Export** at the top of the application window. The **Export** window displays:



Fields for Exporting to Custom Locations

- Set the criteria for the following fields.

Field	Meaning and Directions
How do you want to export the files?	▸ Select the custom option.
Argument <1 - 8>	The image above displays the arguments from the sample ExportExtensions.cfg file. If typing a number into a spin control manually, press TAB or ENTER for the new number to take effect. Blank fields are ignored.

- After setting the parameters, click **Start Export** to export videos. Buffalo Surveillance Server begins to export files and a job status box appears in the **Job Status** pane. While the job is running, **Stop** is active.

  If you click **Stop** while Buffalo Surveillance Server is exporting files, the export is stopped, and not all of the files in the **Export Queue** are exported. However, files that have already been completely exported will remain on the target computer. Click **Dismiss** to close the job status box.

ExportExtensions.cfg

This section is intended only for advanced users. It covers ExportExtensions.cfg, a text file you can create to configure the fields that appear in the **Export Job Configuration** frame of the Surveillance Video Manager.

You can create ExportExtensions.cfg using any text editor. Once created, it needs to be added to the following path: <install-dir>\Config.

ExportExtensions.cfg is a block structured text file. At the end of this section, you will find a sample ExportExtensions.cfg. You can implement the file as is (at the path noted above) to see how it affects the Surveillance Video Manager, or modify the file to meet your own criteria and then implement it.

ExportExtensions.cfg comprises at least one or more ExportExtension block. An ExportExtension block has two main sections: the "Command" section (from "ExportExtension" to the command specification) and the "Query" block section. Pay particular attention to braces [ ]; there needs to be an opening brace [after "ExportExtensions" and a closing brace] after the last Query block.

It is best to avoid using characters that the Buffalo Surveillance Server interprets as wildcards or as otherwise special. If you need to use a character literally that the Buffalo Surveillance Server uses as a wildcard, the character must be preceded by an escape character (\ ).

For example, *This is an example using escape characters in a statement with a wildcard*.

The following are Buffalo Surveillance Server wildcards and special characters: **?**, *****, **#**, **!**, **~**, **^**, **&**, **[ ]**, **{ }**, ****, **"**.

See the Advanced Wildcard Functionality section for details about wildcards.

Command Section of the ExportExtension Block

The "Command" section includes the ExportExtension statement that defines the beginning of an Export Extensions block and includes the command that will be executed as well as other tokens:

```
ExportExtension #  This identifies the beginning of the ExportExtension block.
[ # This is the opening brace for the ExportExtension block.

 <token>=<value>
 <token>=<value>

 Command = <%# %# %# %# ... %U %M ...> # This is REQUIRED statement.
```

The following block name defines the beginning of an ExportExtension block in an ExportExtensions.cfg file:

Block name	Description
ExportExtension	Identifies the beginning of an ExportExtension block. Required.

The command below is required.

Note that the entire block will be ignored if there are fewer Query block statements than %# in the Command. In other words, if you have three Query block sections and four %#, the block will not be read.

Command	Description
Command = <*command specification*>	Defines the command specification that will be executed. Along with the command, the command line must enumerate each Query block. See the sample file below for an illustration. Required. **%#** (where # is a number) is the substitution query value. Each %# enumerates a Query. There should be one %# per Query. %# values may be in any order. The command specification cannot have more %# than Query statements. However, you may specify only certain blocks by omitting query numbers. For example, you would include only query blocks 1, 3, and 7 by using only <%1, %3, %7> The following substitution tokens may also be in the Command specification: • %U = User • %M = Host • %D = Date • %T = Time • %P = Pathname to where the files are to be retrieved • %O = Filename containing list of files in the export list.

You can use tokens to define optional functionality in the "Command" section. Unless noted otherwise, tokens do not have to be present in the "Command" section. When tokens are omitted, default values will be used. Include any of the following tokens when you want to use non-default values:

Token/Value	Description
DeleteWhenDone = <*Boolean*>	Defines whether files will be deleted from the local system when command is completed.

Token/Value	Description
	Valid values = true | false Default = true
Description = <*character string*>	The tooltip for the label. Default = ""
DestinationPathname = <*pathname*>	The pathname to where the files will be exported. Default = ""
FileNaming = <*alpha*>	Defines how files will be named. Valid values = Original | AtSelection | FilenameOnly". Default = Original
Label = <*character string*>	The label found in the "How do you want to export files?" box. Default = Export Extension
Overwrite = <*alpha*>	When files will be overwritten. Valid values = Never | Always | IfNewer Default = Never
RestoreSecurity = <*Boolean*>	Defines if original security settings will be restored. Valid values = true | false Default = true
RestoreTimes = <*Boolean*>	Defines which times will be used. Valid values = true | false Default = true

The Query Blocks Section of the ExportExtension Block

Query block statements describe the controls that will appear on the application. You may have any number of queries.

```
 Query
 [
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
 ]

 Query
 [
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
        <token>=<value>
 ]
] # This is the closing brace for the ExportExtension block.
```

The following block name defines the beginning of a Query block in an ExportExtensions.cfg file.

Block name	Description
Query	Identifies the beginning of a Query block. Required

The following tokens can be used in Query blocks:

Token/Value	Description
BlankValueOk = <*Boolean*>	Indicates whether the value may be left blank. Valid for String and Pathname only. Valid values = true | false. Default = true
Choice = <*character string*>	A choice statement to select. Valid only for Choice. Must have at least one Choice.
DefaultValue = <*depends on token*>	These are the default values that load into the control. **Valid values:** • String type = a string • Pathname type = a string

Token/Value	Description
	• Checkbox type = true | false • Spin type = a number between the LowerLimit and UpperLimit • Choice type = a number **Default values:** • String type = "" • Pathname type = "" • Checkbox type = true (checked) • Spin type = the lower limit • Choice type = 1 When typing a number into a spin control manually, press the **Tab** key or the **Enter** key for the new number to take effect.
Description = <*character string*>	This is the tooltip for the control. Default = ""
Label = <*character string*>	The label for the control. Default = ""
LowerLimit = <*number*>	Valid only for Spin. The lower limit for the spin control. Default = 0
Name = <*character string*>	The item's name. Required Default = ""
Type = <*alpha*>	Defines the type of control. **Valid Values:** • String • Checkbox • Spin

Token/Value	Description
	• Pathname • Choice Default = none
UpperLimit = <*number*>	The upper limit for the spin control. Valid only for Spin. Default = lower limit + 100

Sample ExportExtensions.cfg

```
# This is a sample of an ExportExtensions.cfg file.
#

ExportExtension # Required: This identifies the beginning of the ExportExtension
block.

[ # This is the opening brace for the ExportExtension block.

 Label = Sample Value for the \"How do you want to export the retrieved files?\"
field.

 Description = This is a sample of the description field for the Label.

 Command = echo %1 %2 %3 %4 %5 %P %U %M %D %T  # Required: this is the
  command that will be executed.

 Query
 [
        Name         = Name1
        Type         = String
        Label        = Sample String Label
        DefaultValue = This field can be left blank (\"\") or pre-populated
        BlankValueOk = false
        Description  = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name         = Name2
        Type         = Pathname
        Label        = Sample Pathname Label
        DefaultValue = This field can be left blank (\"\") or pre-populated
        BlankValueOk = false
        Description  = This is a sample of the \"Description\" field.
 ]

 Query
 [
        Name         = Name3
        Type         = Choice
        Label        = Sample Choice Label
        DefaultValue = 2
        BlankValueOk = true
        Description  = This is a sample of the \"Description\" field.
        Choice       = Sample \"Choice\".
        Choice       = Sample \"Choice\".
        Choice       = Sample \"Choice\".
 ]

 Query
 [
        Name         = Name4
        Type         = Checkbox
        Label        = Sample Checkbox Label
        DefaultValue = true
        Description  = This is a sample of the \"Description\" field.
 ]
```

```
 Query
 [
        Name         = Name5
        Type         = Spin
        Label        = Sample Spin Label
        DefaultValue = 26
        Description  = This is a sample of the \"Description\" field.
        LowerLimit   = 0
        UpperLimit   = 100
 ]
] # This is the closing brace for the ExportExtension block.
```

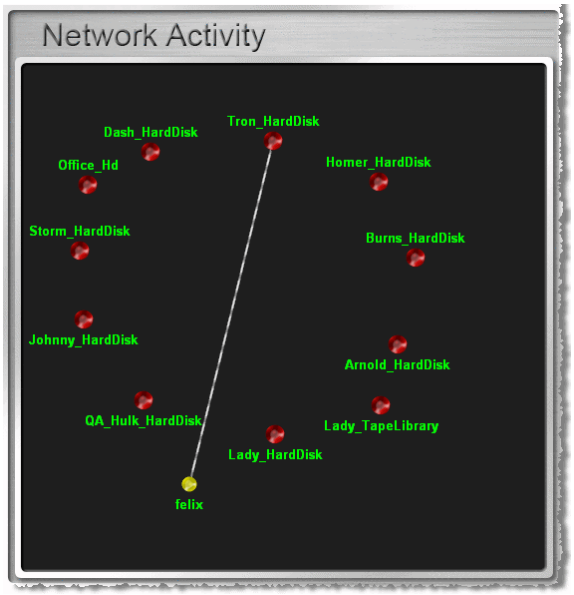
Monitor the Information Repository: Network Activity & Vault Statistics

Network Activity graphically represents, in real-time, each client and Vault in the network.

Remember that a Vault is a storage device used to store files. The Vault drives the storage device and provides memory resources for program execution, metadata management, and continuous monitoring.

From your suite of product applications, open the Network Activity application (NetActivity.exe). From Network Activity access Mini Vault Stats 338 to see high level vault activity information.

Every client and vault in the Information Repository is represented by a sphere and a label in the Network Activity window. Clients appear when jobs are running and the activity is denoted by dynamic lines connecting clients and vaults. As a job is running, move the mouse pointer over the client symbol to view Job, User, and Status details. If you need to freeze the current display of Network Activity, right-click and hold the application's title bar.



Move Vault Symbols

Using Network Activity, the Buffalo Surveillance Server generates and places Vault symbols randomly. Move the Vaults within the window:

- Position the cursor over the symbol until the hand cursor is displayed.
- Click and hold the left mouse button and drag the Vault symbol to a new location.

Under the **Advanced** menu option, find controls that enable you to modify how Network Activity's view of the network is updated.

Updating Mode	Results
Update Fast	Increases screen update rate.
Force Vault Lookup	Forces update of view of Vaults in the network more frequently.
Vault Expires Fast	Clears view of inactive Vault quickly.
Client Expires Fast	Clears view of inactive client quickly.

Key: Symbols, Colors, and Data Movement Direction

The following table details what the various colors of lines and shapes mean in Network Activity.

Object	Meaning
	The hand is displayed when the cursor is hovered over a Vault label. ▸ Right-click to open Mini Vault Stats 338 or standard Vault Stats. ▸ Double-click to open Mini Vault Stats.
	Right-click and hold the application's title bar to freeze the current image of network activity.
red circle	A Vault in the Information Repository.
yellow circle	A client in the Information Repository.
red line, pulsing	The Information Repository is waiting for offline media, and operator intervention is required.
white line, pulsing	The Information Repository is waiting for a connection slot; Normal activity.
green line, pulsing	The client is waiting for a unit of media to be moved into a drive. This is mostly seen with tape and optical libraries.
white line, stationary	The client is connected and the connection is idle, waiting for resources.
blue line, stationary	The client status is unknown.

Object	Meaning
green line, moving	The Information Repository is transferring data; The direction of line's movement indicates the direction the data is moving.
blue line, moving	A media operation is in progress. Load, unload, prepare, erase, etc.

Mini Vault Stats

Mini Vault Stats provides a high level perspective of vault activity through a graphical display of Vault performance when data is transferred from clients or between Vaults on the network.

To access Mini Vault Stats:

- From Network Activity double-click a Vault label or symbol.

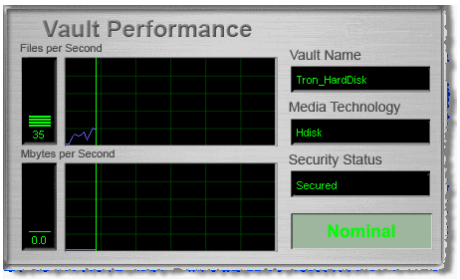
Or,

1. From Network Activity, move the mouse pointer over a Vault symbol, and right-click.
2. From the shortcut menu, select **Mini Vault Stats**.

On the Mini Vault Stats window the **Files per Second** monitors performance of data transfer between vaults and the **Mbytes per Second** displays data transfer from clients.

The display at the bottom right of the Mini Vault Stats window, shows Nominal, Media Request, or Trouble**.**

- **Nominal** - Everything is okay.
- **Media Request** - Request for offline media to be reloaded.
- **Trouble** - Indicates a serious problem.



For more information see Network Activity 335

Launch Mini Vault Stats

- From Network Activity, hover the mouse cursor over the symbol for the Vault for which you want to launch Mini Vault Stats (the cursor will change from an arrow to a pointing hand)
- Right-click the symbol using the right mouse button.
- Select **Mini Vault Stats** from the available options. The Mini Vault Stats window appears.
- Move Mini Vault Stats to a location on your monitor that allows you to see it and Network Activity.

Vault Stats

See Mini Vault Stats 338.

Buffalo Surveillance Server System Requirements

The Buffalo Surveillance Server fully manages data in an Information Repository comprising computers equipped with diverse OSs, including Microsoft Windows[342], Linux[343], and Macintosh OS X[342]. All data attributes, including streams, access forks, access control lists, and rights are preserved by the Information Repository. Regardless of which OS you are running, you will need a keyboard and monitor to run the Buffalo Surveillance Server. If you are running a Buffalo Surveillance Server application, you will also need a pointing device such as a mouse. If you are using a single-button mouse, press **Control+click** where the documentation states "right-click."

Buffalo Surveillance Server processes will run less than optimally if your hardware does not meet or exceed requirements.

The appearance of Buffalo Surveillance Server applications will vary slightly depending on the platform on which they are installed. For example, where the Window's application menu displays Exit, the Macintosh application menu displays Quit.

Retrieval of files requires TCP/IP - Ethernet Network Protocol.

Supported Configurations

Buffalo Surveillance Server Vaults support many different types of storage hardware. The following table covers a few of the device technologies that the Buffalo Surveillance Server supports.

- Hard Disk

  The Buffalo Surveillance Server uses an assigned portion of a computer's file system disk space when a hard disk based Vault is set up. Space in this dynamic media environment can be added or removed very easily using the media management tools in Vault Admin.

- Tape Stackers, Changers, Auto-loaders, and Libraries

  A tape automation system is a single unit of equipment with one or more tape drives and internal shelves or slots in which several units of media are stored. Tape automation systems contain robotic systems that move media between storage slots and the drives. These units range from single drive systems, with just a few tape slots, to large, truck shipped systems that can accommodate over 100 drives and thousands of tapes.

  Tape automation systems fit into two basic categories:

  - Stackers and changers are sequential automation systems. They are designed to change tapes in a sequence, from 1 through x.

- Auto loaders and libraries move media as tasked by the host system.

SCSI 2 Compliant Auto Loaders & Libraries

This category encompasses almost all tape automation systems created within the last decade.

Single, "standalone" Tape Drives

This device manages a single tape at a time without using robotics.

Installation Hardware & Software Requirements

Windows

Server Not applicable.

Client

- **OS Requirements:** Windows Server 2003 SP2; Windows XP SP3; Windows Vista SP2 (32-bit and 64-bit); Windows 7 SP1 (32-bit and 64-bit); Windows Server 2008 SP2 (32-bit and 64-bit).
- **Processor Requirements:** Intel Dual Core 2.20 GHz or better.
- **Hard Drive Requirements:** 10 GB of available space to install and run the product.
- **Memory Requirements:** 2 GB of RAM.
- **Third Party Requirements:** Apple QuickTime 7.7.1; VideoLAN's VLC media player (VLC 1.1.11). Apple QuickTime is recommended for viewing production videos and VLC is recommended for viewing surveillance videos.

If you are using VLC media player, it must be installed in the default location.

Macintosh

ServerNot applicable.

Client

- **OS Requirements:** Mac OS X 10.5.8 or newer.
- **Processor Requirements:** Intel Dual Core 2.20 or better..
- **Hard Drive Requirements:** 10 GB of available space to install and run the product.
- **Memory Requirements:** 2 GB of RAM.
- **Third party Recommendation:** VideoLAN media player (VLC 1.1.10).

If you are using VLC media player, it must be installed in the /Applications folder.

Linux:

ServerNot applicable.

Client

- **OS Requirements**: Red Hat 7.2 or better; Fedora Core 12 or better.
- **Processor Requirements:** Intel Pentium IV 3.40 GHz or better
- **Hard Drive Requirements:** 10 GB of available space to install and run the product
- **Memory Requirements:** 2 GB of RAM.
- **Third party Requirements:** None.

Product Licensing

Get started with Buffalo Surveillance Server by purchasing a product license.

Product License

Product licensing is based on storage capacity and the number of cameras associated to a recording computer. The server and recording computer are your NAS unit. Each Vault within your Information Repository requires a storage license to store video on a Vault, and every recording computer requires a camera license to record video.

Licenses for your products are tied to the computer where they were activated. You can move licenses between computers by requesting a new product key. Optional available licensed uses include: Data Service Policies, Vault platform devices, surveillance, or module extensions (Milestone, OnSSI).

The following is a breakdown of the two types of licensing:

- **Capacity licensing** – This license is used to increase Vault storage capacity for storing video, such as terabyte for hard disk storage or slot count for data tape storage device.
- **Camera licensing** – This license is used to allocate the number of cameras used to capture video per recording computer.

These licenses can be bundled together to achieve your needed storage capacity or camera count.

Run as many Buffalo Surveillance Server software clients as you need on the network at no additional charge. Every Buffalo Surveillance Server comes with a single camera license and a storage license which must be activated.

Your licenses are managed through the Vault Admin, to activate or add a license see Vault Admin > Actions > Vault Properties > License 219.

Add or Remove Vaults

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

Since your Buffalo Surveillance Server clients are already configured for use upon installation, this section deals only with the addition and removal of Vaults.

If you want to change Vault settings, including security, logs, notifications, diagnostics, memory allocation for devices, database optimization parameters, and licensing after you have installed a Vault, see the section titled Vault Properties 211.

You must have administrative rights to add a Vault.

All devices running the Buffalo Surveillance Server must be **time synchronized**. If they are not, unexpected results may occur.

Add Vaults Overview

Work through the following steps to add Vaults to your Information Repository:

- Add Vaults 346. See Add a Hard Disk Vault 349, Add a Tape Library 359, or Add a Standalone Tape Drive 372.
- Reboot the computer with added Vaults. To rename a Vault, use Vault Admin 204 > Actions > Change Vault's Properties 211.
- Prepare media 235 using Vault Admin 204.

Vault Considerations

Vaults are installed on computers to control and manage storage devices. The computer hosting a Vault needs adequate resources to operate and manage the storage device, and considerations should be made for growth and scale. As the amount of data being stored increases, the volume of entries in the Vault catalog also increases. Vaults that use high capacity storage devices need system resources that can accommodate larger catalogs.

Consideration	Details
Calculating Needed Memory for the Vault Catalog	The Vault catalog requires about 2% of the total amount of available storage space.
Date and Time Properties on Computers with Vaults	All computers in the Information Repository that contain Vaults and any VMS system that video is captured from must be synchronized to the same time source for the Information Repository to function correctly.
Hosting More than a Single Vault on One Computer	A single computer can host up to four Vaults as long as it is equipped with enough processor power, memory, and disk space to accommodate the needs of the storage Vaults. This type of configuration is common in smaller environments where a disk-based and a tape-based Vault are both configured on a single computer.
Starting or Restarting Vaults Manually	If Vaults that you have added to the Information Repository are not visible to the Information Repository, you may have to start them manually. See Vault Admin > Start Vaults 258 in the User's Guide. .
Security/Rights	When you add a Vault, it is accessible to all users. To change Vault rights, use Vault Admin > Vault Properties > Security 222.

Remove Vaults Overview

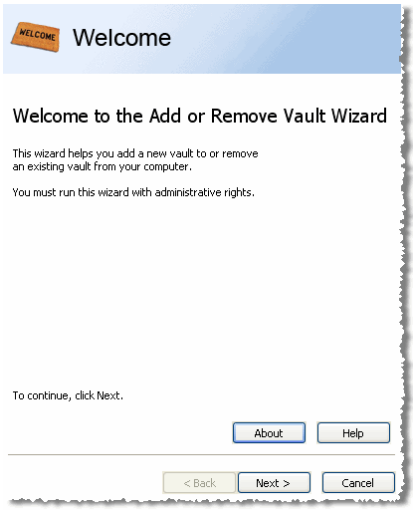
- Remove Vaults 384. See Removing Vaults from the Information Repository 384.
- Reboot the computer to which you have added Vaults.

Add or Remove Vault Wizard

Use the Buffalo Surveillance Server **Add or Remove Vault Wizard** to add or remove a Buffalo Surveillance Server hard disk Vault, standalone tape Vault, or tape library Vault. This section leads you through the first few windows of the Add or Remove Vault wizard in advanced user mode. Unless you are an advanced user and have clearly defined reasons for changing the default values, it is best to use default values, leaving **advanced user mode** unchecked. After adding a Vault, see the Vault Admin, Prepare Media 235 section to add media to your Vault and information repository.

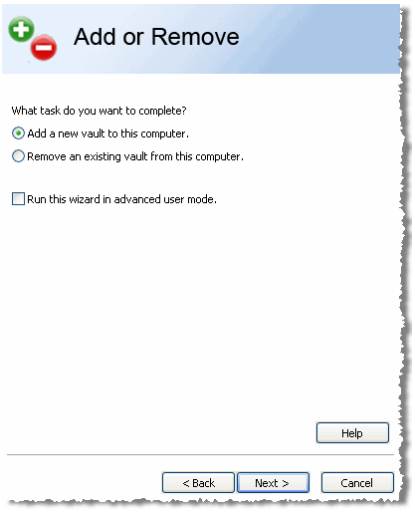
If you are running the wizard in standard mode, some of the windows shown below will not be included.

- **Launch** 34 the **Add or Remove Vault Wizard**. The **Welcome** window appears:


Welcome
Welcome to the Add or Remove Vault Wizard
This wizard helps you add a new vault to or remove an existing vault from your computer.
You must run this wizard with administrative rights.
To continue, click Next.
About
Help
< Back
Next >
Cancel

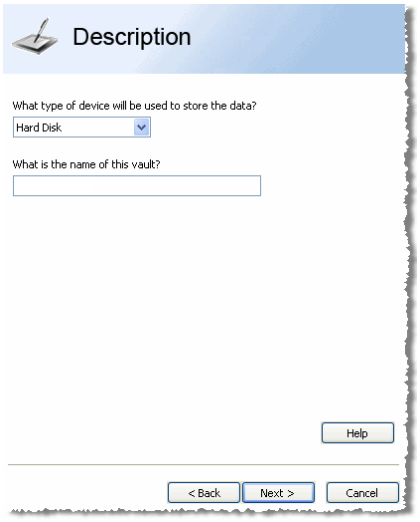
- Click **[Next >]**. The **Add or Remove** window appears.

If there are four Vaults installed on the computer where the wizard is run from, then Add new Vault to this computer is disabled. In that case, delete a Vault before adding a new one.


Add or Remove
What task do you want to complete?
Add a new vault to this computer.
Remove an existing vault from this computer.
Run this wizard in advanced user mode.
Help
< Back
Next >
Cancel

- Select **Add a new Vault to this computer** or **Remove an existing Vault from this computer**. Select **Run this wizard in advanced mode** if you are an advanced user and want to set parameters instead of using default settings.

- If you are removing a Vault, go to Removing Vaults from the Information Repository 384, otherwise see the next step.
- Click **[Next >]**. The **Description** window appears:



- Enter the following in the **Description** window:

Field	Directions
What type of device will be used to store data?	▸ Select Hard Disk, Tape Library, or Standalone Tape Drive.
What is the name of this Vault?	▸ Enter a name for the Vault.

- Click **[Next >]**.
- Go to Add a Hard Disk Vault 351, Add a Tape Library 361, or Add a Standalone Tape Drive 374 in this guide, depending on what type of Vault you are adding.

Add a Hard Disk Vault

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

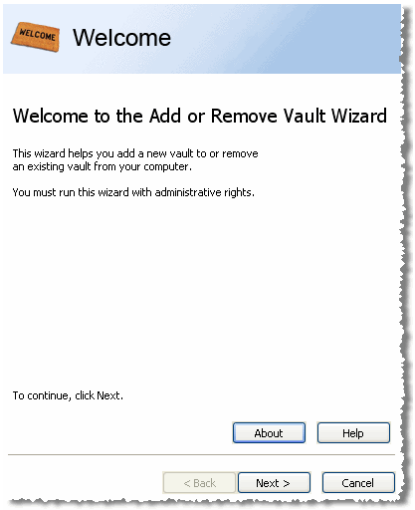
Use the Buffalo Surveillance Server **Add or Remove Vault Wizard** to add a Buffalo Surveillance Server hard disk Vault to the Information Repository. This section leads you through the **Add or Remove Vault Wizard** in advanced user mode. Unless you are an advanced user and have clearly defined reasons for changing the default values, it is best to use default values, leaving **advanced user mode** unchecked. After adding a Vault, see the Vault Admin, Prepare Media 235 section to add media to your Vault and Information Repository.

All devices running the Buffalo Surveillance Server must be **time synchronized**. If they are not, unexpected results may occur.

If you are running the wizard in standard mode, some of the windows shown below will not be included.

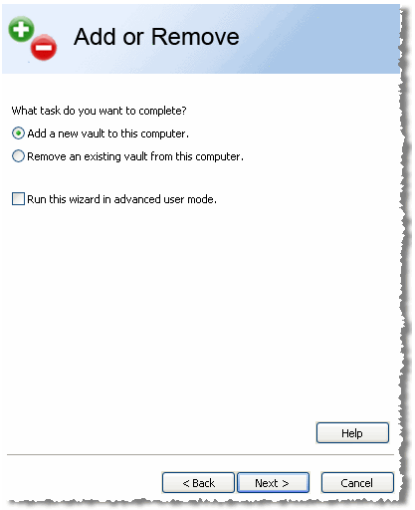
If you want to change Vault settings, including security, logs, notifications, diagnostics, memory allocation for devices, database optimization parameters, and licensing after you have installed a Vault, see the section titled Vault Properties 211.

- **Launch** 34 the **Add or Remove Vault Wizard**. The **Welcome** window appears:


Welcome
Welcome to the Add or Remove Vault Wizard
This wizard helps you add a new vault to or remove an existing vault from your computer.
You must run this wizard with administrative rights.
To continue, click Next.
About
Help
< Back
Next >
Cancel

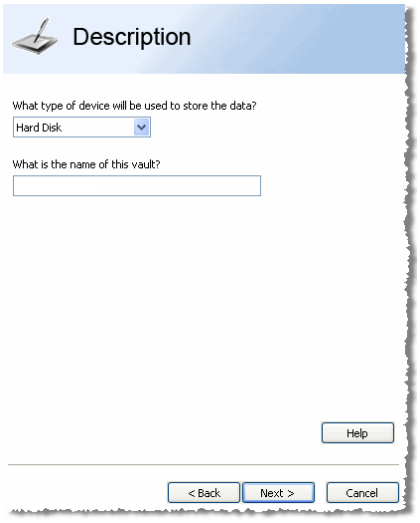
- Click **[Next >]**. The **Add or Remove** window appears.

If there are four Vaults installed on the computer where the wizard is run from, then Add new Vault to this computer is disabled. In that case, delete a Vault before adding a new one.


Add or Remove
What task do you want to complete?
Add a new vault to this computer.
Remove an existing vault from this computer.
Run this wizard in advanced user mode.
Help
< Back
Next >
Cancel

- Select **Add a new Vault to this computer**. Select **Run this wizard in advanced mode** if you are an advanced user and want to set parameters instead of using defaults settings. The rest of this section assumes that **Run this wizard in advanced user mode** has been selected.

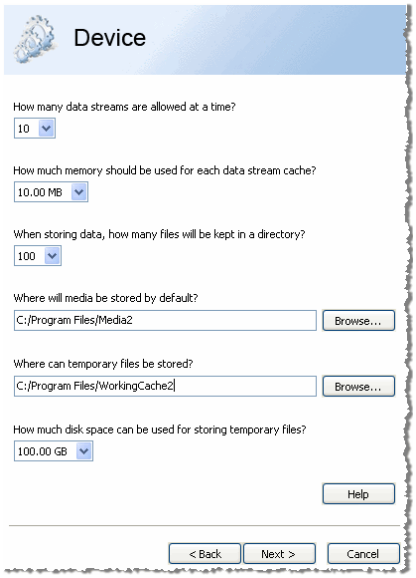
- Click **[Next >]**. The **Description** window appears:



- Enter the following in the **Description** window:

Field	Directions
What type of device will be used to store data?	▸ Select Hard Disk.
What is the name of this Vault?	▸ Enter a name for the Vault, or use the default if the field is already populated.

▸ Click **[Next >]**. The **Device** window **(advanced mode only)** appears. The **Device** window enables you to define how many data streams are allowed simultaneously and how many files are kept in a directory. The options are detailed below.


Device
How many data streams are allowed at a time?
10
How much memory should be used for each data stream cache?
10.00 MB
When storing data, how many files will be kept in a directory?
100
Where will media be stored by default?
C:/Program Files/Media2
Browse...
Where can temporary files be stored?
C:/Program Files/WorkingCache2
Browse...
How much disk space can be used for storing temporary files?
100.00 GB
Help
< Back
Next >
Cancel

▸ Enter the following in the **Device** window:

Field	Meaning
How many data streams are allowed at a time?	"Data streams" refers to how many connections can be made to a Vault simultaneously. Having several connections enables several clients to communicate with the Vault simultaneously, so the more streams you permit the greater the requirements for processing power.
How much memory should be used for each data stream cache?	This setting defines how much virtual memory is set aside for incoming and outgoing data during file storage and retrieval. A larger cache may improve performance but will do so at the expense of using more virtual memory. The total amount of space used equals the number of data streams multiplied by the selected cache size. So, if you select 10 data streams and 10 MB of cache, the Vault will set aside 100 MB of total virtual memory for caching data. A selection of 10 MB is usually sufficient.

<table>
<tr><th>Field</th><th>Meaning</th></tr>
<tr><td>When storing data, how many files will be kept in a directory?</td><td>Data is stored in files in the Vault. More files enable you store more data per unit of media, but more files also slow down Information Repository performance. Choose a value that meets but does not exceed your needs. The following table details the number of files that correlates with each value.
<table>
<tr><th>Value</th><th>Number of Files</th></tr>
<tr><td>50</td><td>125 billion</td></tr>
<tr><td>100</td><td>250 billion</td></tr>
<tr><td>150</td><td>375 billion</td></tr>
<tr><td>200</td><td>500 billion</td></tr>
<tr><td>300</td><td>750 billion</td></tr>
<tr><td>400</td><td>1 trillion</td></tr>
<tr><td>500</td><td>125 trillion</td></tr>
</table></td></tr>
<tr><td>Where will media be stored by default?</td><td>"Default location" defines where, by default, media will be stored and managed. Wherever in Buffalo Surveillance Server there is an option to use a default location, Buffalo Surveillance Server will use the default location.</td></tr>
<tr><td>Where can temporary files be stored?</td><td>This setting enables you to define where the working cache will be located. The default location is '<install-dir>/WorkingCache'.

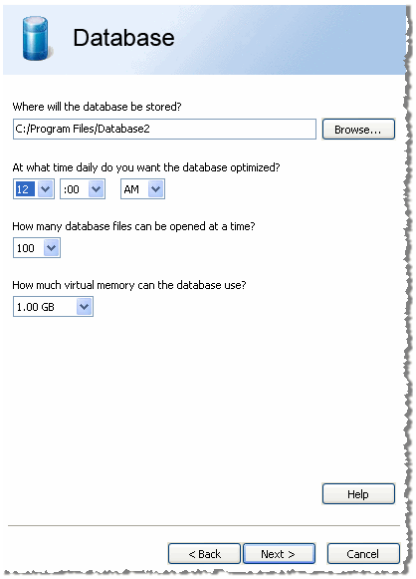
When Buffalo Surveillance Server is processing files, it sometimes creates temporary files. These enable Buffalo Surveillance Server to work more quickly and efficiently and are especially important when you are clipping video files. Temporary files are kept in the "working cache."

If you do not want to use the location chosen by Buffalo Surveillance Server, you can chose an alternate location by clicking [< Browse].

 This setting can be changed with Vault Admin > Vault Properties > Devices 213 at a later time.</td></tr>
<tr><td>How much disk space can be used for storing temporary files?</td><td>This setting defines how much working cache space Buffalo Surveillance Server will be permitted to use for temporary files.</td></tr>
</table>

Field	Meaning
	This setting can be changed with Vault Admin > Vault Properties > Devices 213 at a later time.

- Click **[Next >]**. The **Database** window **(advanced mode only)** appears. This is the database that keeps track of Vault contents, information, and metadata. Define where the Vault database resides, the time of day for database optimization, how many database files can be opened simultaneously, and how much virtual memory the database can use. These options are detailed below.

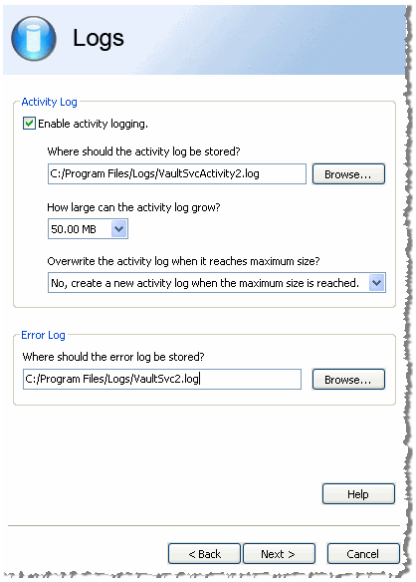


- Enter or select the following in the **Database** window:

Field	Meaning
Where will the database be stored?	This field enables you to set the location on the hard disk where the database will be stored.
At what time daily do you want the database optimized?	This option enables you to set how often the database will be optimized. To ensure that Buffalo Surveillance Server and your Information Repository continue to function optimally, the database for every Vault is optimized daily.
How many database files can be opened at a time?	This option enables you to limit how many files may be open simultaneously. Having more files open enables Buffalo Surveillance Server to search faster. However, more files require more Information Repository resources.

Field	Meaning
How much virtual memory can the database use?	This option enables you to limit how much virtual memory the database will use. For best Information Repository performance, choose a value that does not exceed 75% of the physical memory on the computer.

- Click **[Next >]**. The **Logs** window **(advanced mode only)** appears. Use to define to where activity and error logs are written.

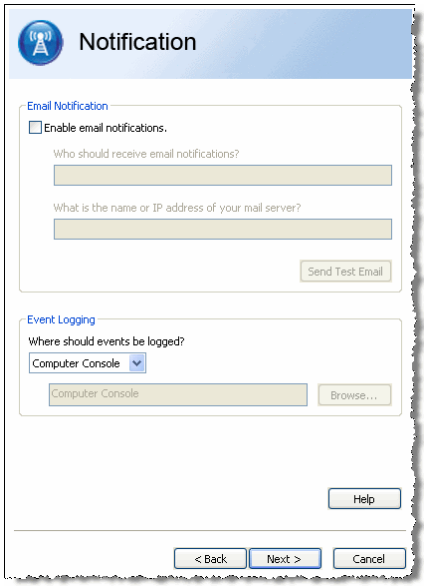


- Enter or select the following in the **Logs** window:

Field	Meaning and Directions
Enable activity logging.	This checkbox will enable activity logging and the activity log fields listed below. If unchecked, Buffalo Surveillance Server will not create activity logs. Buffalo Surveillance Server supports event auditing, providing a security audit trail, through activity logs. Activity logs include following events: Vault start, Vault stop, file read, file write, file create, file delete, media load, media unload, and media erase. For these events, the following information is recorded: name and IP of the user who executed the event and the date and time the event was executed. Activity logging is optional. Buffalo Surveillance Server creates activity logs in tab-delimited format. Consequently, logs can be imported into any application that supports the tab-delimited format, such as Microsoft Excel.

Field	Meaning and Directions
Where should the activity log be stored?	This field defines to where your activity logs will be written. ▸ Use **[< Browse]** to launch the Activity Log Location window. Then, select a location.
How large can the activity log grow?	This option defines the maximum size to which the activity log will be permitted to grow. It is important to limit the size of the activity log because it may be difficult to find needed the information in an overly large activity log.
Overwrite the activity log when it reaches maximum size?	This option enables you to overwrite the existing activity log. Overwriting the activity log prevents activity log proliferation. If you select **No** for this option, a new activity log will be created whenever the current activity log reaches the maximum size you defined in the previous field.
Where should the error log be stored?	Error logs are created only when a Buffalo Surveillance Server Vault encounters a problem. Error logs include warning and Vault start and Vault stop information. Buffalo Surveillance Server supports error logging for every Vault in your Information Repository, and error logging is always enabled. This field enables you to define where error logs will be stored. Where "activity logs" record all Buffalo Surveillance Server activity, "error logs" record only events that have gone wrong. Be sure to remember where you are storing your error logs so that you can refer to them should an error condition occur during Buffalo Surveillance Server processing. ▸ Use **[< Browse]** to launch the Error Log Location window. Then, select a location.

- Click **[Next >]**. The **Notification** window appears. Use to define where e-mails about Information Repository events are sent and where Buffalo Surveillance Server events should be logged.

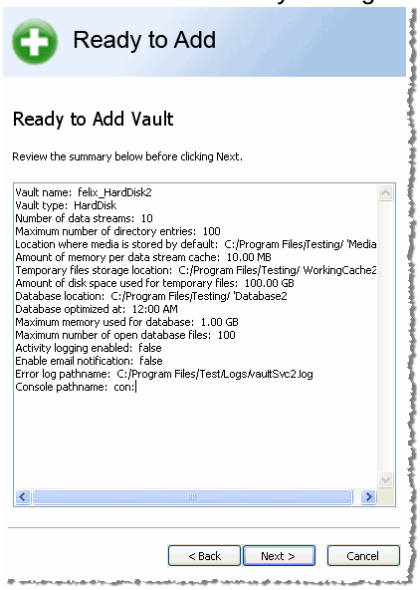


- Enter or select the following in the **Notification** window:

Field	Meaning and Directions
Enable email notification.	Enable optional email notifications and the email notification fields listed below. When enabled, receive an email whenever an event occurs of interest for managing a Vault. These events include Vault start, Vault stop, media requests, etc., and are the same as those recorded for notifications.
Who should receive email notifications?	Type the email address of the user receiving email notifications about Buffalo Surveillance Server events.
What is the name or IP the address of your mail server?	The address of your mail server. Use either IP address or computer name. ▸ Click **Send Test Email** to test the path. Buffalo Surveillance Server does not test valid parameters here. If an invalid IP address or computer name is entered, email notifications do not work.
Where should events be logged? (advanced mode only)	Define where events are logged.

Field	Meaning and Directions
	Computer Console causes events to be logged in a console that appears on the computer monitor. It remains open as long as the Vault is running. If the Vault is stopped, the console disappears. If the Vault is restarted, the console disappears and then reappears. **Window** causes events to be logged in a window that appears on the computer monitor. This window remains open as long as the Vault is running. If the Vault is stopped, the window disappears. If the Vault is restarted, the window disappear and then reappears. If you select **Computer Console** or **Window** in a Windows environment, configure Vault service on Windows to open a window on the desktop for diagnostic messages. For directions, see section, "Configure Vault Service on Windows to Open a Window on the Desktop for Diagnostic Messages". Once configured, Vault activity displays. If you close a window or console, the Vault stops. Buffalo Surveillance Server does not operate without running Vaults. **File** will cause events to be logged to a file. If you select this option, you will need to enter or **[< Browse]** to the location to which you want events logged.

- Click **[Next >]**. The **Ready to Add** window appears. Use to review the parameters for the new Vault before actually adding the Vault.


Ready to Add
Ready to Add Vault
Review the summary below before clicking Next.
Vault name: felix_HardDisk2
Vault type: HardDisk
Number of data streams: 10
Maximum number of directory entries: 100
Location where media is stored by default: C:/Program Files/Testing/ 'Media
Amount of memory per data stream cache: 10.00 MB
Temporary files storage location: C:/Program Files/Testing/ WorkingCache2
Amount of disk space used for temporary files: 100.00 GB
Database location: C:/Program Files/Testing/ 'Database2
Database optimized at: 12:00 AM
Maximum memory used for database: 1.00 GB
Maximum number of open database files: 100
Activity logging enabled: false
Enable email notification: false
Error log pathname: C:/Program Files/Test/Logs/vaultSvc2.log
Console pathname: con:
< Back
Next >
Cancel

- Review the displayed summary and ensure that all of the values are correct.
- When ready to add the new Vault, click **Next**. The Completed window appears.
- Click **Finish** to exit the Add or Remove Vault Wizard. Restart the computer for the new Vault activation. To add another Vault or remove a Vault, launch the Add or Remove Vault Wizard again.

If you do not restart your computer, the new Vault will not start or be available for use.

- After restarting your computer, Launch Vault Admin 204 to prepare media 235 for the Vault just added. See the Administrator's Guide > Vault Admin > Actions > Prepare Media for directions.

Add a Tape Library

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

Use the Buffalo Surveillance Server **Add or Remove Vault Wizard** to add a Buffalo Surveillance Server Vault to a tape library. This section leads you through the **Add or Remove Vault Wizard** in advanced user mode. Unless you are an advanced user and have clearly defined reasons for changing the default values, it is best to use default values, leaving advanced user mode unchecked. After adding a Vault, see the Vault Admin, Prepare Media 235 section to add media to your Vault and information repository.

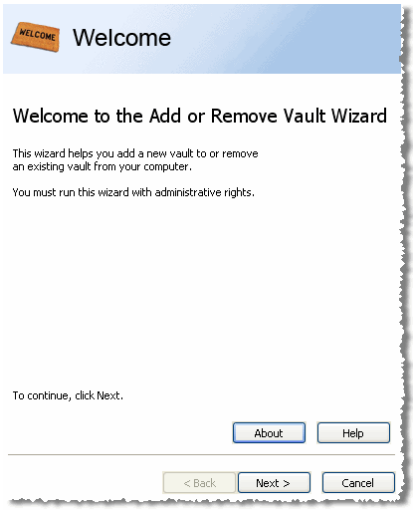
All devices running the Buffalo Surveillance Server must be **time synchronized**. If they are not, unexpected results may occur.

If you are running the wizard in standard mode, some of the windows shown below will not be included.

Before adding a Vault to a tape library in a Windows environment, disable the tape library and tape drives within the tape library in the Windows Device Manager so Windows does not interfere with Buffalo Surveillance Server's management of the device. For directions on how to disable a tape library, see the section titled Disable a SCSI Devices on a Windows Computer 369.

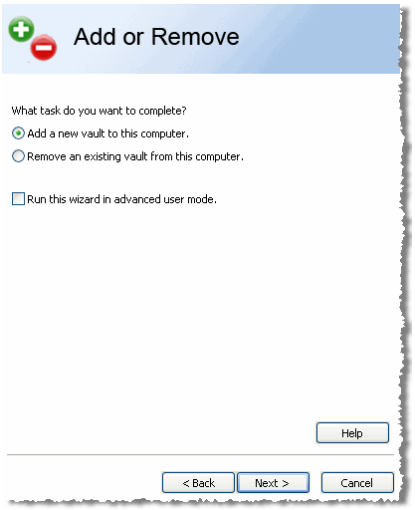
If you want to change Vault settings, including security, logs, notifications, diagnostics, memory allocation for devices, database optimization parameters, and licensing after you have installed a Vault, see the section titled Vault Properties 211.

- **Launch** 34 the **Add or Remove Vault Wizard**. The **Welcome** window appears:


Welcome
Welcome to the Add or Remove Vault Wizard
This wizard helps you add a new vault to or remove an existing vault from your computer.
You must run this wizard with administrative rights.
To continue, click Next.
About
Help
< Back
Next >
Cancel

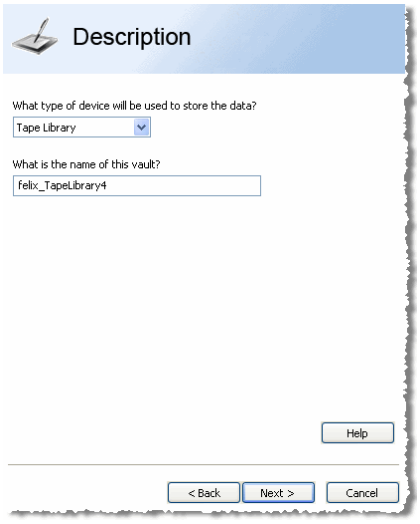
- Click **[Next >]**. The **Add or Remove** window appears.

If there are four Vaults installed on the computer where the wizard is run from, then Add new Vault to this computer is disabled. In that case, delete a Vault before adding a new one.


Add or Remove
What task do you want to complete?
Add a new vault to this computer.
Remove an existing vault from this computer.
Run this wizard in advanced user mode.
Help
< Back
Next >
Cancel

- Select **Add a new Vault to this computer**. Select **Run this wizard in advanced mode** if you are an advanced user and want to set parameters instead of using defaults settings. The rest of this section assumes that **Run this wizard in advanced user mode** has been selected.

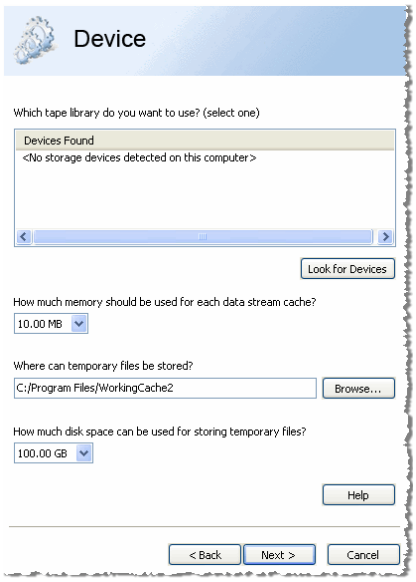
- Click **[Next >]**. The **Description** window appears:



- Enter the following in the **Description** window:

Field	Directions
What type of device will be used to store data?	▸ Select **Tape Library**.
What is the name of this Vault?	▸ Enter a name for the Vault, or use the default if the field is already populated with a name you want to use.

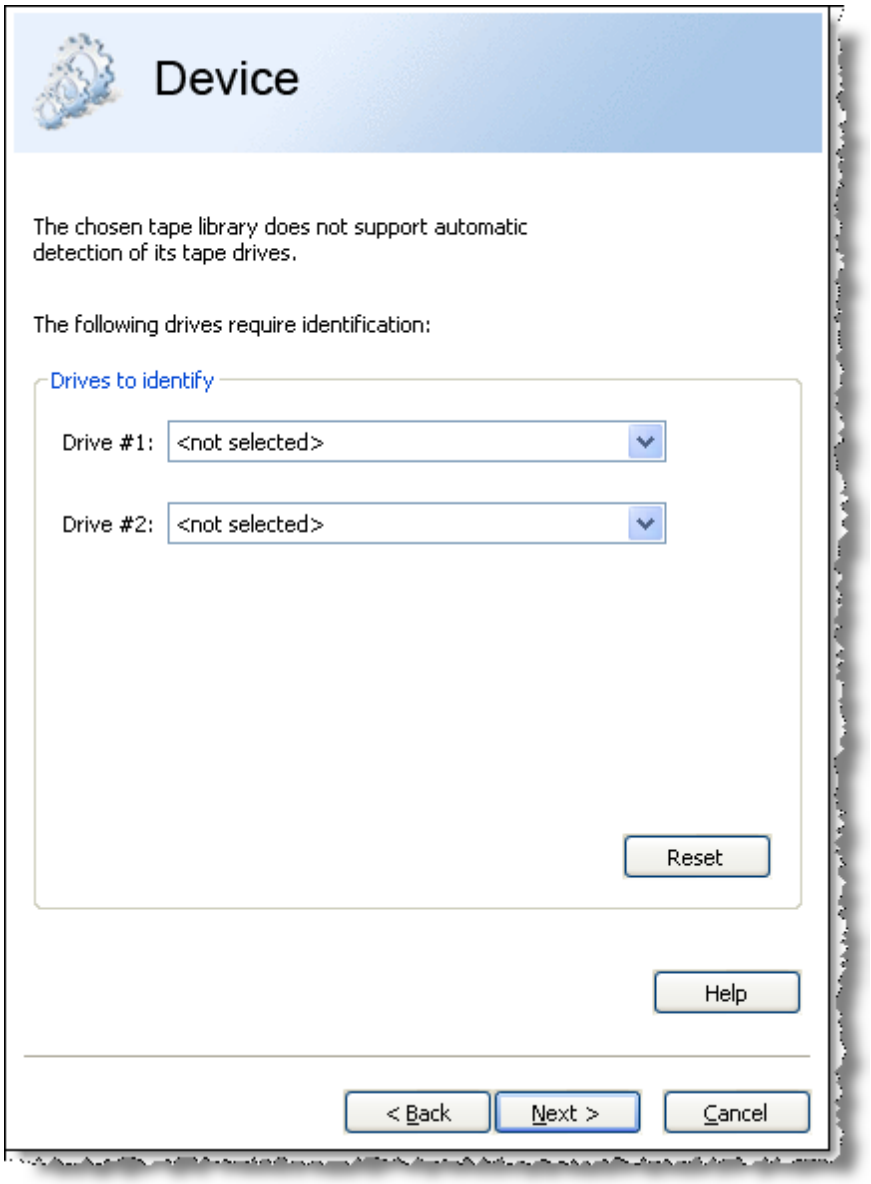
▸ Click **[Next >]**. The **Device** window appears. Use to select a tape drive or tape library (depending on selection in the **Description** window).



Field	Directions
Devices Found	▸ Select a device. If no devices are listed, ensure that the tape drive is connected to your computer and powered on. If you are adding a Vault to a Windows computer, ensure that the device or devices are disabled in the Windows Device Manager 369. Then, click **[Look for Devices]** to refresh the list. Some tape libraries do not support automatic detection of their tape drives. In such cases, the phrase "(**drives need to be identified**)" will appear to the right of the device name. When you click **[** Next **]** , you will need to select the drives.

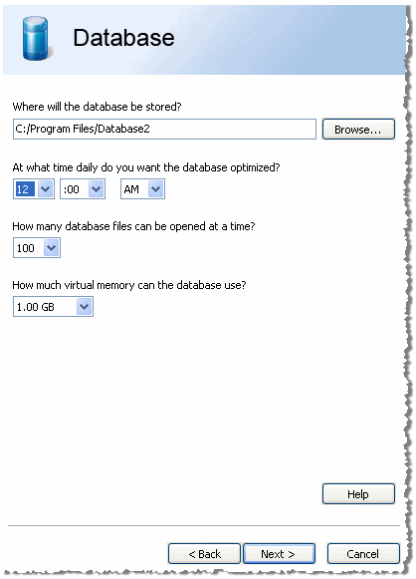
Field	Directions
How much memory should be used for each data stream cache	▸ Select How much memory should be used for each data stream cache. This setting defines how much virtual memory is set aside for incoming and outgoing data during file storage and retrieval. A larger cache may improve performance but will do so at the expense of using more virtual memory. The total amount of space used equals the number of tapes in the library multiplied by the selected cache size. So, if you select 10 data streams and 10 MB of cache, the Vault will set aside 100 MB of total virtual memory for caching data. A selection of 10 MB is usually sufficient.
Where can temporary files be stored?	This setting enables you to define where the working cache will be located. The default location is '<install-dir>/WorkingCache'. When Buffalo Surveillance Server is processing files, it sometimes creates temporary files. These enable Buffalo Surveillance Server to work more quickly and efficiently and are especially important when you are clipping video files. Temporary files are kept in the "working cache." If you do not want to use the location chosen by Buffalo Surveillance Server, you can chose an alternate location by clicking **[< Browse]**. This setting can be changed with Vault Admin > Vault Properties > Devices 213 at a later time.
How much disk space can be used for storing temporary files?	This setting defines how much working cache space Buffalo Surveillance Server will be permitted to use for temporary files. The working cache should be large enough to hold multiple large video files. The default size is 100 GB. This setting can be changed with Vault Admin > Vault Properties > Devices 213 at a later time.

▸ Click **[Next >]**. If the tape library was not able to provide the identification for its tape drives, the screen below appears. If the device was able to identify its tape drive, then the next wizard window appears.



Field	Directions
Drives to identify **(Drive #1** **Drive #2, *etc.*)**	▸ Identify each drive by selecting it from the associated drop down list.

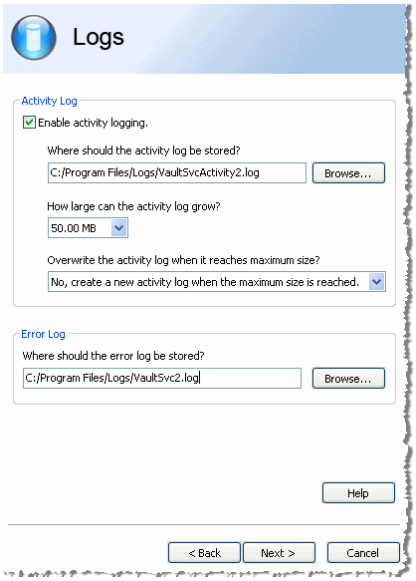
- Click **[Next >]**. The **Database** window **(advanced mode only)** appears. This is the database that keeps track of Vault contents, information, and metadata. Define where the Vault database resides, the time of day for database optimization, how many database files can be opened simultaneously, and how much virtual memory the database can use. These options are detailed below.



- Enter or select the following in the **Database** window:

Field	Meaning
Where will the database be stored?	This field enables you to set the location on the hard disk where the database will be stored.
At what time daily do you want the database optimized?	This option enables you to set how often the database will be optimized. To ensure that Buffalo Surveillance Server and your Information Repository continue to function optimally, the database for every Vault is optimized daily.
How many database files can be opened at a time?	This option enables you to limit how many files may be open simultaneously. Having more files open enables Buffalo Surveillance Server to search faster. However, more files require more Information Repository resources.
How much virtual memory can the database use?	This option enables you to limit how much virtual memory the database will use. For best Information Repository performance, choose a value that does not exceed 75% of the physical memory on the computer.

- Click **[Next >]**. The **Logs** window **(advanced mode only)** appears. Use to define to where activity and error logs are written.

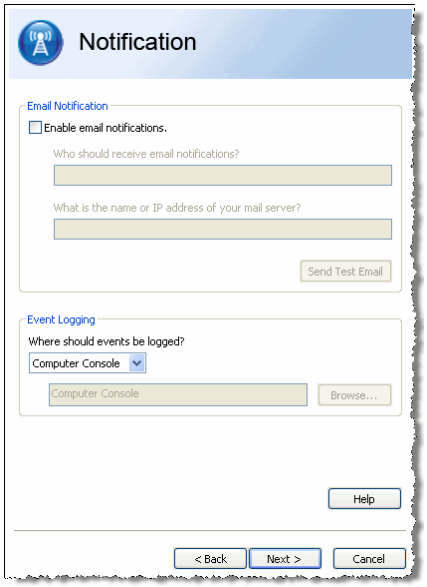


- Enter or select the following in the **Logs** window:

Field	Meaning and Directions
Enable activity logging.	This checkbox will enable activity logging and the activity log fields listed below. If unchecked, Buffalo Surveillance Server will not create activity logs. Buffalo Surveillance Server supports event auditing, providing a security audit trail, through activity logs. Activity logs include following events: Vault start, Vault stop, file read, file write, file create, file delete, media load, media unload, and media erase. For these events, the following information is recorded: name and IP of the user who executed the event and the date and time the event was executed. Activity logging is optional. Buffalo Surveillance Server creates activity logs in tab-delimited format. Consequently, logs can be imported into any application that supports the tab-delimited format, such as Microsoft Excel.
Where should the activity log be stored?	This field defines to where your activity logs will be written. ▸ Use **[< Browse]** to launch the Activity Log Location window. Then, select a location.

Field	Meaning and Directions
How large can the activity log grow?	This option defines the maximum size to which the activity log will be permitted to grow. It is important to limit the size of the activity log because it may be difficult to find needed the information in an overly large activity log.
Overwrite the activity log when it reaches maximum size?	This option enables you to overwrite the existing activity log. Overwriting the activity log prevents activity log proliferation. If you select **No** for this option, a new activity log will be created whenever the current activity log reaches the maximum size you defined in the previous field.
Where should the error log be stored?	Error logs are created only when a Buffalo Surveillance Server Vault encounters a problem. Error logs include warning and Vault start and Vault stop information. Buffalo Surveillance Server supports error logging for every Vault in your Information Repository, and error logging is always enabled. This field enables you to define where error logs will be stored. Where "activity logs" record all Buffalo Surveillance Server activity, "error logs" record only events that have gone wrong. Be sure to remember where you are storing your error logs so that you can refer to them should an error condition occur during Buffalo Surveillance Server processing. ▸ Use **[< Browse]** to launch the Error Log Location window. Then, select a location.

- Click **[Next >]**. The **Notification** window appears. Use to define where e-mails about Information Repository events are sent and where Buffalo Surveillance Server events should be logged.

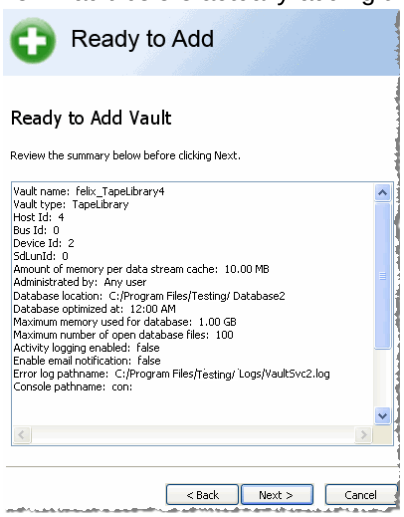


- Enter or select the following in the **Notification** window:

Field	Meaning and Directions
Enable email notification.	Enable optional email notifications and the email notification fields listed below. When enabled, receive an email whenever an event occurs of interest for managing a Vault. These events include Vault start, Vault stop, media requests, etc., and are the same as those recorded for notifications.
Who should receive email notifications?	Type the email address of the user receiving email notifications about Buffalo Surveillance Server events.
What is the name or IP the address of your mail server?	The address of your mail server. Use either IP address or computer name. ▸ Click **Send Test Email** to test the path. Buffalo Surveillance Server does not test valid parameters here. If an invalid IP address or computer name is entered, email notifications do not work.
Where should events be logged? (advanced mode only)	Define where events are logged.

Field	Meaning and Directions
	Computer Console causes events to be logged in a console that appears on the computer monitor. It remains open as long as the Vault is running. If the Vault is stopped, the console disappears. If the Vault is restarted, the console disappears and then reappears. **Window** causes events to be logged in a window that appears on the computer monitor. This window remains open as long as the Vault is running. If the Vault is stopped, the window disappears. If the Vault is restarted, the window disappear and then reappears. If you select **Computer Console** or **Window** in a Windows environment, configure Vault service on Windows to open a window on the desktop for diagnostic messages. For directions, see section, "Configure Vault Service on Windows to Open a Window on the Desktop for Diagnostic Messages". Once configured, Vault activity displays. If you close a window or console, the Vault stops. Buffalo Surveillance Server does not operate without running Vaults. **File** will cause events to be logged to a file. If you select this option, you will need to enter or **[< Browse]** to the location to which you want events logged.

- Click **[Next >]**. The **Ready to Add** window appears. Use to review the parameters for the new Vault before actually adding the Vault.


Ready to Add
Ready to Add Vault
Review the summary below before clicking Next.
Vault name: felix_TapeLibrary4
Vault type: TapeLibrary
Host Id: 4
Bus Id: 0
Device Id: 2
SdLunId: 0
Amount of memory per data stream cache: 10.00 MB
Administrated by: Any user
Database location: C:/Program Files/Testing/ Database2
Database optimized at: 12:00 AM
Maximum memory used for database: 1.00 GB
Maximum number of open database files: 100
Activity logging enabled: false
Enable email notification: false
Error log pathname: C:/Program Files/Testing/ Logs/VaultSvc2.log
Console pathname: con:
< Back
Next >
Cancel

- Review the displayed summary and ensure that all of the values are correct.

- When ready to add the new Vault, click **Next**. The Completed window appears.
- Click **Finish** to exit the Add or Remove Vault Wizard. Restart the computer for the new Vault activation. To add another Vault or remove a Vault, launch the Add or Remove Vault Wizard again.

If you do not restart your computer, the new Vault will not start or be available for use.

- After restarting your computer, Launch Vault Admin 204 to prepare media 235 for the Vault just added. See the Administrator's Guide > Vault Admin > Actions > Prepare Media for directions.

Disable SCSI Devices on a Windows Computer

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

To ensure that Windows does not interfere with Buffalo Surveillance Server's management of SCSI tape drives and libraries ("Medium Changers"), disable Windows' use of these devices.

This is done via the Windows **Device Manager**.

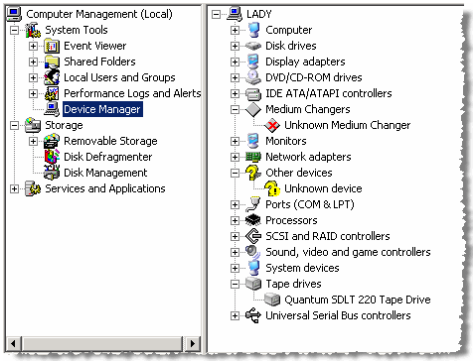
Disabling these devices in the Windows Device Manager only disables Windows use of the device and does not affect Buffalo Surveillance Server's use of the device.

Devices that are active (not disabled) in Windows will not be visible to or used by Buffalo Surveillance Server.

To access the **Device Manager**:

- Click **Start** on the Windows desktop.
- Right-click **My Computer**.
- Click **Manage**. The **Computer Management** window appears.

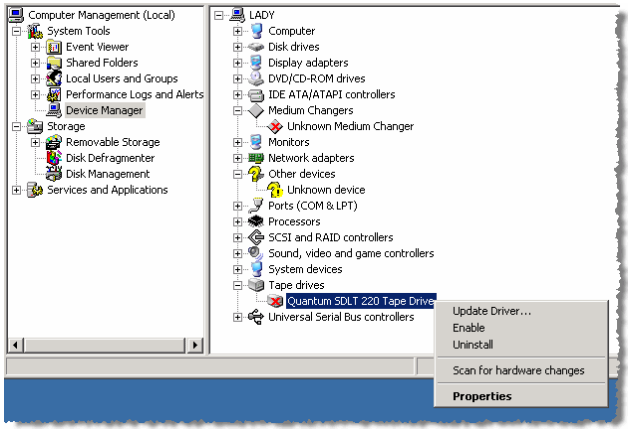
- In the left pane of Computer Management, click **Device Manager**:



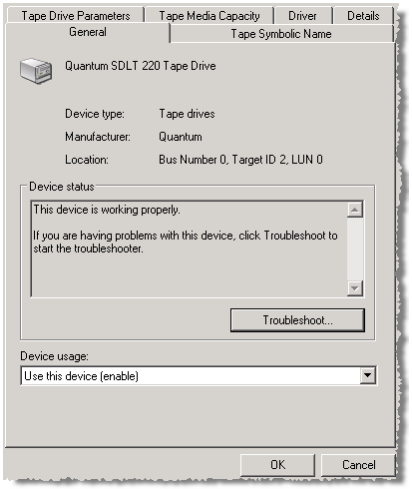
- In the right pane, find the tape drive or tape library installed on the computer.

- Right-click the tape drive, and then select **Properties**.

If running a tape library, be sure to disable the tape library ("Medium Changers") and the actual tape drives in the library. Repeat the disabling process for each tape drive within the library.



The **Tape Drive Properties** window appears:



- Under **Device Usage**, click the down arrow, and select **Do not use this device (disable)**.
- Click **OK**. The **Tape Drive Properties** window closes, and the icon for the device in the right pane of **Computer Management** should now have ✗ superimposed upon it: Quantum SDLT 220 Tape Drive. The tape drive is now disabled.

Add a Standalone Tape Drive Vault

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

Use the Buffalo Surveillance Server **Add or Remove Vault Wizard** to add a Buffalo Surveillance Server Vault to a standalone tape drive. This section leads you through the **Add or Remove Vault Wizard** in advanced user mode. Unless you are an advanced user and have clearly defined reasons for changing the default values, it is best to use default values, leaving advanced user mode unchecked. After adding a Vault, see the Vault Admin, Prepare Media 235 section to add media to your Vault and information repository.

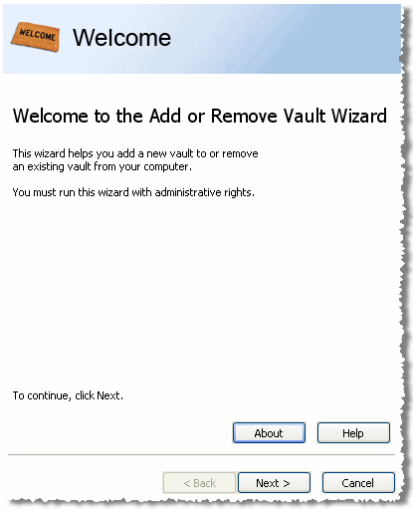
All devices running the Buffalo Surveillance Server must be **time synchronized**. If they are not, unexpected results may occur.

If you are running the wizard in standard mode, some of the windows shown below will not be included.

Before adding a standalone tape drive Vault in a Windows environment, disable the device in the Windows Device Manager so Windows does not interfere with Buffalo Surveillance Server's management of the device. For directions on how to disable a tape drive, see the section titled Disable a SCSI Devices on a Windows Computer 381.

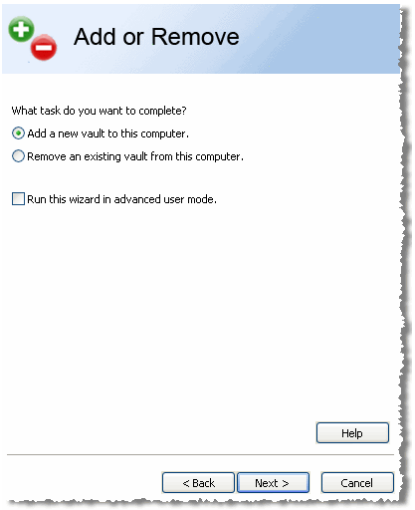
If you want to change Vault settings, including security, logs, notifications, diagnostics, memory allocation for devices, database optimization parameters, and licensing after you have installed a Vault, see the section titled Vault Properties 211.

- **Launch** 34 the **Add or Remove Vault Wizard**. The **Welcome** window appears:


Welcome
Welcome to the Add or Remove Vault Wizard
This wizard helps you add a new vault to or remove an existing vault from your computer.
You must run this wizard with administrative rights.
To continue, click Next.
About
Help
< Back
Next >
Cancel

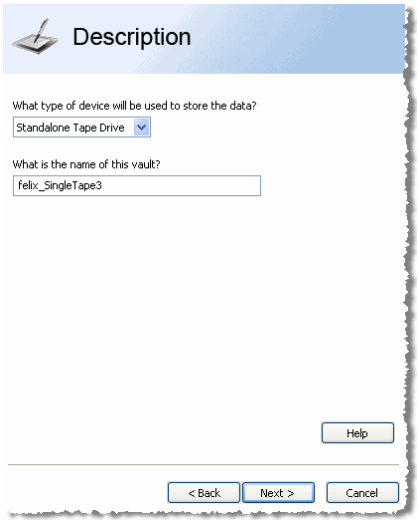
- Click **[Next >]**. The **Add or Remove** window appears.

If there are four Vaults installed on the computer where the wizard is run from, then Add new Vault to this computer is disabled. In that case, delete a Vault before adding a new one.


Add or Remove
What task do you want to complete?
Add a new vault to this computer.
Remove an existing vault from this computer.
Run this wizard in advanced user mode.
Help
< Back
Next >
Cancel

- Select **Add a new Vault to this computer**. Select **Run this wizard in advanced mode** if you are an advanced user and want to set parameters instead of using defaults settings. The rest of this section assumes that **Run this wizard in advanced user mode** has been selected.

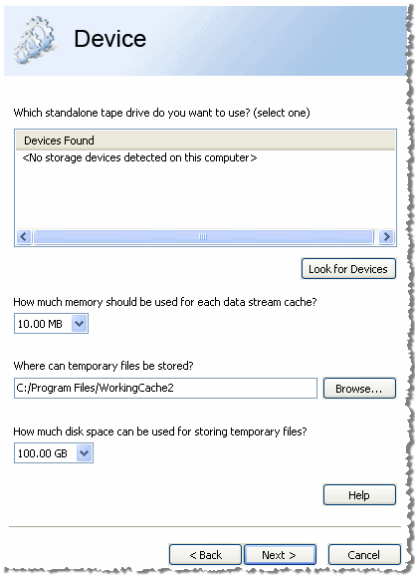
- Click **[Next >]**. The **Description** window will appear:



- Enter the following in the **Description** window:

Field	Directions
What type of device will be used to store data?	▸ Select **Standalone Tape Drive**.
What is the name of this Vault?	▸ Enter a name for the Vault, or use the default if the field is already populated with a name you want to use.

▸ Click **[Next >]**. The **Device** window appears. Use to select a tape drive or tape library (depending on the selection in the **Description** window).

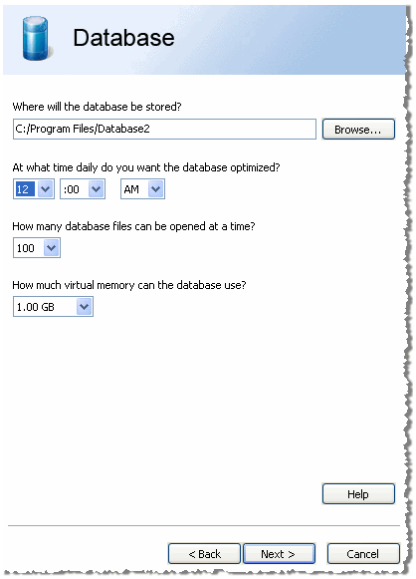


▸ Enter the following in the **Device** window:

Field	Directions
Devices Found	▸ Select a device. If no devices are listed, ensure that the tape drive is connected to your computer and powered on. If you are adding a Vault to a Windows computer, ensure that the device is disabled in the Windows Device Manager[369]. Then, click **[Look for Devices]** to refresh the list.
How much memory should be used for each data stream cache	▸ Select How much memory should be used for each data stream cache. This setting defines how much virtual memory is set aside for incoming and outgoing data during file storage and retrieval. A larger cache may improve performance but will do so at the expense of using more virtual memory. A selection of 10 MB is usually sufficient.

Field	Directions
Where can temporary files be stored?	This setting enables you to define where the working cache will be located. The default location is '<install-dir>/WorkingCache'. When Buffalo Surveillance Server is processing files, it sometimes creates temporary files. These enable Buffalo Surveillance Server to work more quickly and efficiently and are especially important when you are clipping video files. Temporary files are kept in the "working cache." If you do not want to use the location chosen by Buffalo Surveillance Server, you can chose an alternate location by clicking **[< Browse]**. This setting can be changed with Vault Admin > Vault Properties > Devices 213 at a later time.
How much disk space can be used for storing temporary files?	This setting defines how much working cache space Buffalo Surveillance Server will be permitted to use for temporary files. The working cache should be large enough to hold multiple large video files. The default size is 100 GB. This setting can be changed with Vault Admin > Vault Properties > Devices 213 at a later time.

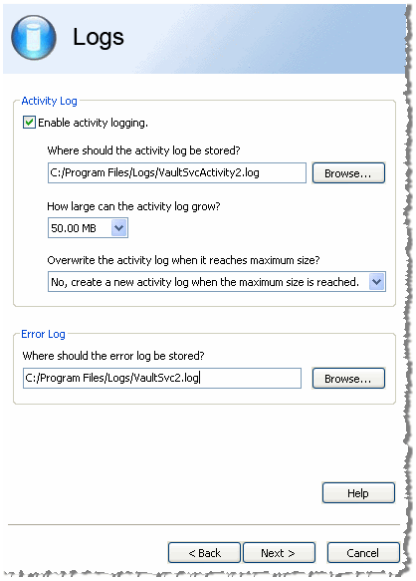
- Click **[Next >]**. The **Database** window **(advanced mode only)** appears. This is the database that keeps track of Vault contents, information, and metadata. Define where the Vault database resides, the time of day for database optimization, how many database files can be opened simultaneously, and how much virtual memory the database can use. These options are detailed below.



- Enter or select the following in the **Database** window:

Field	Meaning
Where will the database be stored?	This field enables you to set the location on the hard disk where the database will be stored.
At what time daily do you want the database optimized?	This option enables you to set how often the database will be optimized. To ensure that Buffalo Surveillance Server and your Information Repository continue to function optimally, the database for every Vault is optimized daily.
How many database files can be opened at a time?	This option enables you to limit how many files may be open simultaneously. Having more files open enables Buffalo Surveillance Server to search faster. However, more files require more Information Repository resources.
How much virtual memory can the database use?	This option enables you to limit how much virtual memory the database will use. For best Information Repository performance, choose a value that does not exceed 75% of the physical memory on the computer.

- Click **[Next >]**. The **Logs** window **(advanced mode only)** appears. Use to define to where activity and error logs are written.

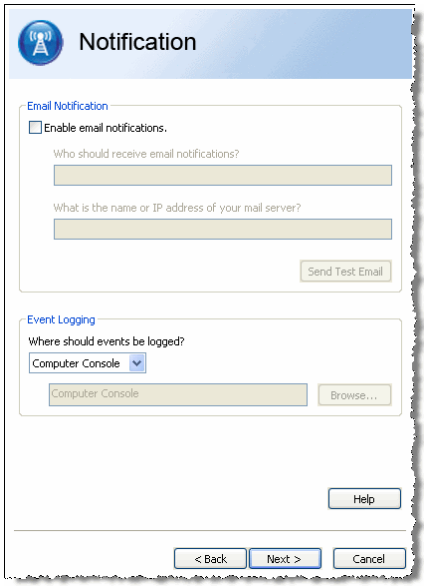


- Enter or select the following in the **Logs** window:

Field	Meaning and Directions
Enable activity logging.	This checkbox will enable activity logging and the activity log fields listed below. If unchecked, Buffalo Surveillance Server will not create activity logs. Buffalo Surveillance Server supports event auditing, providing a security audit trail, through activity logs. Activity logs include following events: Vault start, Vault stop, file read, file write, file create, file delete, media load, media unload, and media erase. For these events, the following information is recorded: name and IP of the user who executed the event and the date and time the event was executed. Activity logging is optional. Buffalo Surveillance Server creates activity logs in tab-delimited format. Consequently, logs can be imported into any application that supports the tab-delimited format, such as Microsoft Excel.
Where should the activity log be stored?	This field defines to where your activity logs will be written. ▸ Use **[< Browse]** to launch the Activity Log Location window. Then, select a location.

Field	Meaning and Directions
How large can the activity log grow?	This option defines the maximum size to which the activity log will be permitted to grow. It is important to limit the size of the activity log because it may be difficult to find needed the information in an overly large activity log.
Overwrite the activity log when it reaches maximum size?	This option enables you to overwrite the existing activity log. Overwriting the activity log prevents activity log proliferation. If you select **No** for this option, a new activity log will be created whenever the current activity log reaches the maximum size you defined in the previous field.
Where should the error log be stored?	Error logs are created only when a Buffalo Surveillance Server Vault encounters a problem. Error logs include warning and Vault start and Vault stop information. Buffalo Surveillance Server supports error logging for every Vault in your Information Repository, and error logging is always enabled. This field enables you to define where error logs will be stored. Where "activity logs" record all Buffalo Surveillance Server activity, "error logs" record only events that have gone wrong. Be sure to remember where you are storing your error logs so that you can refer to them should an error condition occur during Buffalo Surveillance Server processing. ▸ Use **[< Browse]** to launch the Error Log Location window. Then, select a location.

- Click **[Next >]**. The **Notification** window appears. Use to define where e-mails about Information Repository events are sent and where Buffalo Surveillance Server events should be logged.

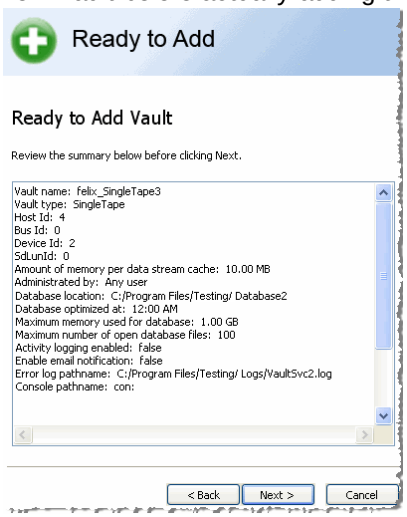


- Enter or select the following in the **Notification** window:

Field	Meaning and Directions
Enable email notification.	Enable optional email notifications and the email notification fields listed below. When enabled, receive an email whenever an event occurs of interest for managing a Vault. These events include Vault start, Vault stop, media requests, etc., and are the same as those recorded for notifications.
Who should receive email notifications?	Type the email address of the user receiving email notifications about Buffalo Surveillance Server events.
What is the name or IP the address of your mail server?	The address of your mail server. Use either IP address or computer name. ▸ Click **Send Test Email** to test the path. Buffalo Surveillance Server does not test valid parameters here. If an invalid IP address or computer name is entered, email notifications do not work.
Where should events be logged? (advanced mode only)	Define where events are logged.

Field	Meaning and Directions
	Computer Console causes events to be logged in a console that appears on the computer monitor. It remains open as long as the Vault is running. If the Vault is stopped, the console disappears. If the Vault is restarted, the console disappears and then reappears. **Window** causes events to be logged in a window that appears on the computer monitor. This window remains open as long as the Vault is running. If the Vault is stopped, the window disappears. If the Vault is restarted, the window disappear and then reappears. If you select **Computer Console** or **Window** in a Windows environment, configure Vault service on Windows to open a window on the desktop for diagnostic messages. For directions, see section, "Configure Vault Service on Windows to Open a Window on the Desktop for Diagnostic Messages". Once configured, Vault activity displays. If you close a window or console, the Vault stops. Buffalo Surveillance Server does not operate without running Vaults. **File** will cause events to be logged to a file. If you select this option, you will need to enter or **[< Browse]** to the location to which you want events logged.

- Click **[Next >]**. The **Ready to Add** window appears. Use to review the parameters for the new Vault before actually adding the Vault.


Ready to Add
Ready to Add Vault
Review the summary below before clicking Next.
Vault name: felix_SingleTape3
Vault type: SingleTape
Host Id: 4
Bus Id: 0
Device Id: 2
SdLunId: 0
Amount of memory per data stream cache: 10.00 MB
Administrated by: Any user
Database location: C:/Program Files/Testing/ Database2
Database optimized at: 12:00 AM
Maximum memory used for database: 1.00 GB
Maximum number of open database files: 100
Activity logging enabled: false
Enable email notification: false
Error log pathname: C:/Program Files/Testing/ Logs/VaultSvc2.log
Console pathname: con:
< Back
Next >
Cancel

- Review the displayed summary and ensure that all of the values are correct.

- When ready to add the new Vault, click **Next**. The Completed window appears.
- Click **Finish** to exit the Add or Remove Vault Wizard. Restart the computer for the new Vault activation. To add another Vault or remove a Vault, launch the Add or Remove Vault Wizard again.

If you do not restart your computer, the new Vault will not start or be available for use.

- After restarting your computer, Launch Vault Admin 204 to prepare media 235 for the Vault just added. See the Administrator's Guide > Vault Admin > Actions > Prepare Media for directions.

Disable SCSI Devices on a Windows Computer

To ensure that Windows does not interfere with Buffalo Surveillance Server's management of SCSI tape drives and libraries ("Medium Changers"), disable Windows' use of these devices.

This is done via the Windows **Device Manager**.

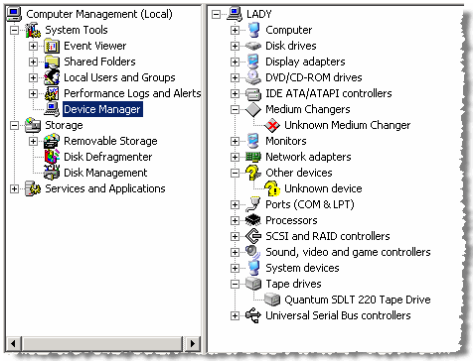
Disabling these devices in the Windows Device Manager only disables Windows use of the device and does not affect Buffalo Surveillance Server's use of the device.

Devices that are active (not disabled) in Windows will not be visible to or used by Buffalo Surveillance Server.

To access the **Device Manager**:

- Click **Start** on the Windows desktop.
- Right-click **My Computer**.
- Click **Manage**. The **Computer Management** window appears.

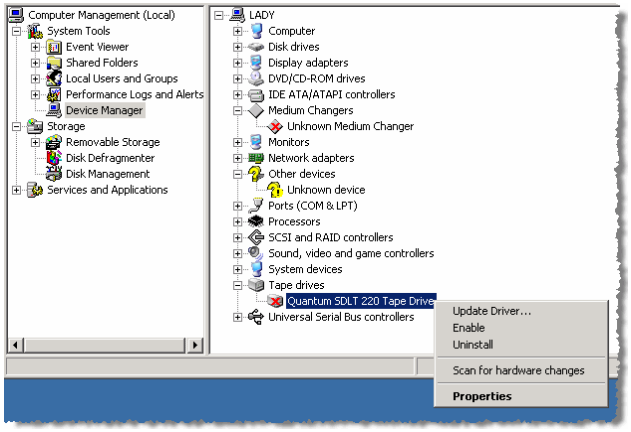
- In the left pane of Computer Management, click **Device Manager**:



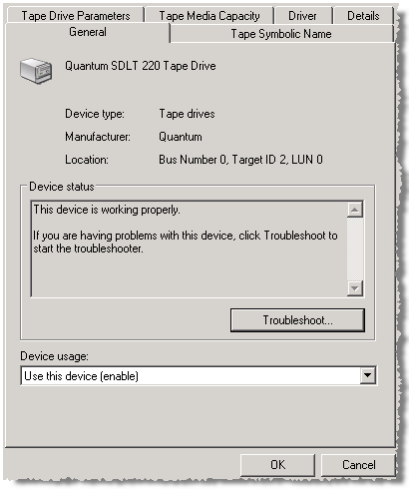
- In the right pane, find the tape drive or tape library installed on the computer.

- Right-click the tape drive, and then select **Properties**.

If running a tape library, be sure to disable the tape library ("Medium Changers") and the actual tape drives in the library. Repeat the disabling process for each tape drive within the library.



The **Tape Drive Properties** window appears:



- Under **Device Usage**, click the down arrow, and select **Do not use this device (disable)**.
- Click **OK**. The **Tape Drive Properties** window closes, and the icon for the device in the right pane of **Computer Management** should now have ✗ superimposed upon it: Quantum SDLT 220 Tape Drive. The tape drive is now disabled.

Remove a Vault

IMPORTANT NOTE: If you are using the Buffalo Surveillance Server Vaults and media are preconfigured and prepared automatically; there is no need to perform any Vault operations. The information in this Vault Admin section is provided for information only.

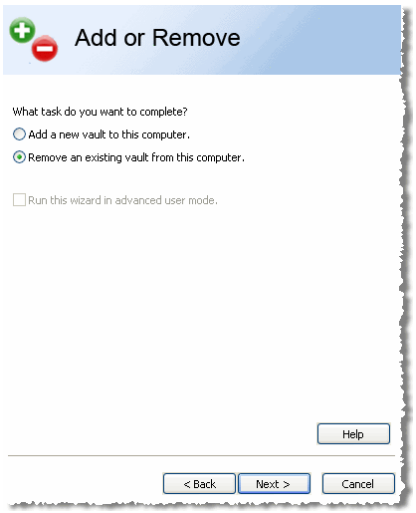
Use the Buffalo Surveillance Server **Add or Remove Vault Wizard** to remove hard disk based Vaults, tape library Vaults, and single tape drive Vaults from your Information Repository. This section leads you through the **Add or Remove Vault Wizard**.

When you remove a Vault, the data in the Vault is not erased and your license file is not effected.

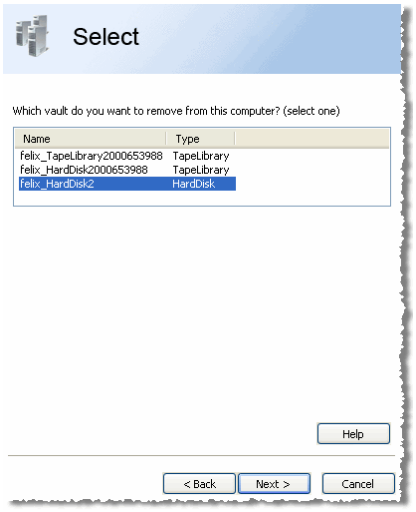
- **Launch** 34 the **Add or Remove Vault Wizard**. The **Welcome** window appears:

Welcome
Welcome to the Add or Remove Vault Wizard
This wizard helps you add a new vault to or remove an existing vault from your computer.
You must run this wizard with administrative rights.
To continue, click Next.
About
Help
< Back
Next >
Cancel

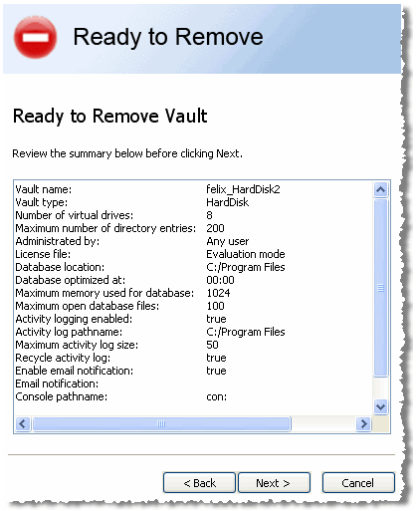
- Click **[Next >]**. The **Add or Remove** window will appear.


Add or Remove
What task do you want to complete?
Add a new vault to this computer.
Remove an existing vault from this computer.
Run this wizard in advanced user mode.
Help
< Back
Next >
Cancel

- Select **Remove an existing Vault from this computer**.
- Click **[Next >]**. The **Select** window will appear.



- Select the Vault you want to remove.
- Click **[Next >]**. The **Ready to Remove** window will appear.


Ready to Remove
Ready to Remove Vault
Review the summary below before clicking Next.
Vault name: felix_HardDisk2
Vault type: HardDisk
Number of virtual drives: 8
Maximum number of directory entries: 200
Administrated by: Any user
License file: Evaluation mode
Database location: C:/Program Files
Database optimized at: 00:00
Maximum memory used for database: 1024
Maximum open database files: 100
Activity logging enabled: true
Activity log pathname: C:/Program Files
Maximum activity log size: 50
Recycle activity log: true
Enable email notification: true
Email notification:
Console pathname: con:
< Back
Next >
Cancel

- Review the displayed summary to ensure that you have selected the correct Vault.
- When you are ready to remove the Vault, click **[Next >]**. The **Completed** window will appear.
- Click **[Finish]** to exit the **Add or Remove Vault Wizard**. You will need to restart your computer for changes to take effect. If you want to remove another Vault or add a Vault, launch **Add Remove Vault Wizard** again.

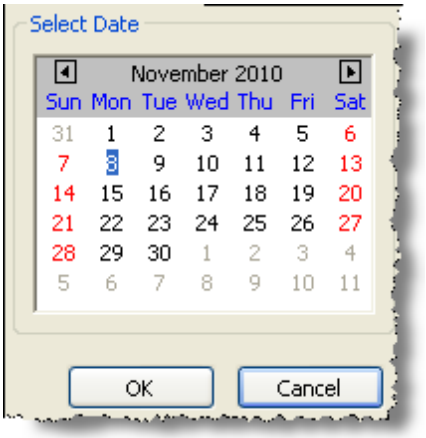
Scheduling Windows

Following are all of the windows that support policy scheduling in Buffalo Surveillance Server:

- Date Window 386
- Days Window 386
- Duration Window 387
- Period of Time Window 387
- Time Interval Window 388
- Time Window 388

Date Window

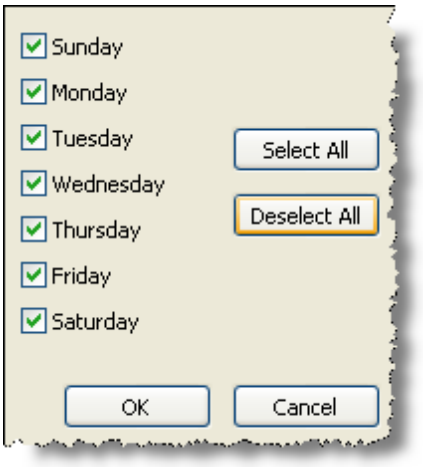
Follow the directions below to set the date on which you want a job to run.



- Ensure that the month and year are set to your preference, and then click a particular day from the calendar.
- Click **[OK]**. The **Time** window will appear. In the **Time** window, Set the time at which you want the process to run.

Days Window

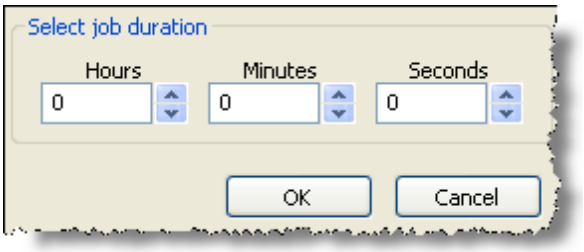
Follow the directions below to define on which days of the week you want a job to run.



- Check the days on which you want the job to run.
- Click **[OK]** to save the values that you have selected. The days will appear in the **On what days of the week** text box.

Duration Window

Follow the directions below to set a maximum time that a job should be allowed to run.

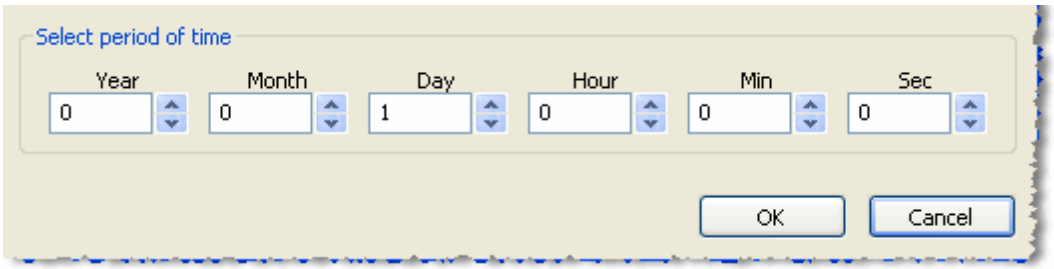


- Enter the number of hours, minutes, and seconds the process will be allowed to run.
- Click **[OK]**. The **Should the job be stopped before it is completed** text box on the Scheduling tab will display how long the job will run before it is terminated.

This feature will stop a job according to the parameters that you set—even if the job is not finished.

Period of Time Window

Follow the directions below to enable Buffalo Surveillance Server to search for files that have been modified within a defined period of time.



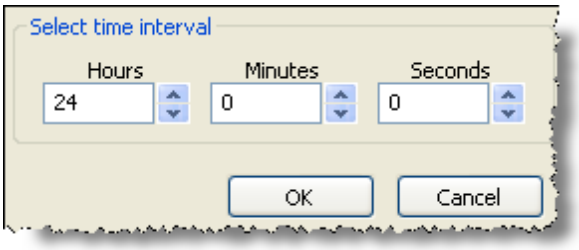
- Enter a period of time in terms of years, months, days, hours, minutes, AND/OR seconds. You may enter any combination or up to a maximum period of ≤10 Years, ≤100 Months, ≤ 1000 Days, ≤100000 Hours, ≤1000000 Minutes, and ≤1000000 Seconds.

"≤" means "less than or equal to".

- Click **[OK]**. The text box from which you started will display the value that you have entered.

Time Interval Window

Follow the directions below to set the interval at which the jobs will be run. The job will run at the interval that you enter until you change it. To stop a job that is using the repeat setting, you must edit or delete the policy.



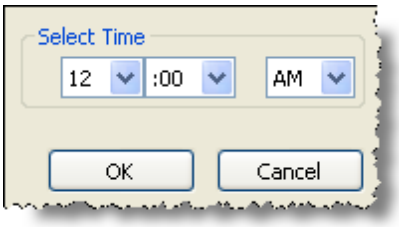
- Enter the interval, in hours, minutes, and seconds, at which the job is to run. The clock for the interval begins as soon as you save the policy .

  So, if you want a job to run every three hours, enter 3:00:00. If you want the job to run once a day, enter 24:00:00; Every two days, 48:00:00. For example, if you enter 3:30:30, the job will repeat every three hours, thirty minutes, and thirty seconds from the time that you first save the policy. So, if you save your policy at exactly 12:00 AM, the job will run at 12:00 AM, 3:30:30 AM, 7:01:00 AM, 10:31:30 AM, 2:02:00 PM etc. If you enter 72:00:00 and start the job on Monday at exactly noon, it will again run on Thursday at exactly noon.

- Click **[OK]**. The job interval will be displayed in the text box from which you started.

Time Window

Follow the directions below to select a time.



- Select an hour, a minute, and AM or PM. From left to right, the first field displays the hour of day; the second, the minute; the third, AM or PM.
- Click **[OK]**. The time that you have entered will populate the text box from which you started.

Glossary

Administrator

Administrators have complete and unrestricted access to a computer or domain.

Automatic Failover

If there is more than one Vault available, Buffalo Surveillance Server clients can divide their use of the available Vaults. Clients can also fail-over from the current Vault in use to another Vault should the current Vault fail. The same logic applies even if there is more than a single tape-based Vault containing tapes with the same label (for example, "Monday Incremental").

Camera Pool

A camera pool is a user defined virtual grouping of cameras to search video from specified cameras. For example, a camera pool called "Doors" that includes all of the cameras that cover the doors of your establishment. When you need to see who's come or gone, select the "Doors" camera pool as a search criteria, and only video captured from cameras in the "Doors" camera pool are included. There is no limit to the number of camera pools your Buffalo Surveillance Server solution may have.

Catalog

A catalog contains metadata for files on media in the Information Repository. Catalogs are created and supported on media and in Vaults. Catalogs on Vaults contain metadata about what files are on media assigned to the Vault as well as information about the files. In other words, catalogs on Vaults track information about what files contain and where they are stored. Catalogs on media contain information about the files on the media.

Client

Buffalo Surveillance Server clients can also be thought of as "fat clients." They provide interfaces for system administrators and end users. Although divided by functionality, in Buffalo Surveillance Server's balanced, extended client/server architecture, clients often play roles normally supported by servers. This enables increased Information Repository flexibility, security, robustness, and capacity.

Communications Timeout

If Buffalo Surveillance Server is unable to connect with a computer in the network or communications are interrupted during a job, Buffalo Surveillance Server will wait a predefined period of time before completely dropping the connection. This period of time is called the "communications timeout."

Companion File

"Companion file" is another name for the low-resolution proxy file that Buffalo Surveillance Server can create when capturing or ingesting videos.

Component

A component is a single, independently running application or utility that might or might not interact with or have dependencies on other applications. Buffalo Surveillance Server software consists of several separate components (for example, clients and servers) that work together to protect your files.

CRC

CRC stands for "cyclic redundancy check." Buffalo Surveillance Server uses CRCs to ensure data integrity by detecting accidental alterations of data during transmission or storage. Using this method, a unique numeric CRC value is assigned to the files that are being captured or ingested. An algorithm calculates this value based on the file's size, data stream, and other unique characteristics. The CRC value is calculated on the client host computer as data is sent to Vaults. It is also calculated independently as the Vault is writing the files to its storage device.

When the data write sequence is completed, the Vault compares the client- and server-calculated values. If they match, the data on the storage media is considered valid. If they don't match, the files are marked with an error.

Buffalo Surveillance Server's uses CRCs for data verification every time stored files are moved or replicated within the Information Repository. CRCs provide the same level of data continuity verification as other methods that require a read-after-write of the stored data, but CRCs do so with much higher performance and less resource overhead.

Data Storage Area

The Data Storage Area is the space on media used to store protected files.

Default

A default value or setting is the value or setting that a device or program automatically selects if you do not specify an alternative.

Default Location

"Default location" defines where, by default, media will be stored and managed. Wherever in Buffalo Surveillance Server there is an option to use a default location, Buffalo Surveillance Server will use the default location.

Dynamic Resource Allocation

Any network computer with Buffalo Surveillance Server installed has access to any storage resource accessible by the network. This makes it possible to build an Information Repository using as many storage devices as you need, based on whatever storage media and drive technology you want. Flexible parameters are available to build configurations that can send stored files to different storage devices based on the storage performance and longevity requirements of the files.

Embedded Time Display

The embedded time display (i.e., time code) system assigns a number to each frame of video, analogous to the way film is manufactured with edge numbers, to enable each frame to be uniquely identified. Time data is coded in digits in the form HH:MM:SS, in the range 00:00:00 to 23:59:59. When available, Buffalo Surveillance Server also enables you to view and use other units of measurement, such as frame number.

Frame

Frame refers to a section of a GUI window that is set apart by borders or a single image comprised in a video.

Header

In the context of data storage, a header is an area on media in which the parameters assigned during preparation of the media are stored. The information contained in the header includes access control lists (ACL), storage pool information, media size, type, etc.

Host

Host refers to the computer from which files originate or the computer on which a policy resides.

Indexing

Indexing is the process of surveying data on media to create a catalog on media or on a Vault. Re-indexing refers to when the indexing process is repeated and the catalog is recreated. When media is re-indexed, the original catalog is overwritten.

Information Lifecycle Management (ILM)

ILM stands for Information Lifecycle Management. Information Lifecycle Management refers to the policies, processes, practices, and tools used to align the business value of information with the most appropriate and cost-effective IT infrastructure from the time information is conceived through its final disposition. When ILM is video aware, it is called Video Lifecycle Management (VLM).

Information Repository

Whenever you see "Information Repository" in this documentation, the "Buffalo Surveillance Server Information Repository" is intended. In general, an information repository is an easy to deploy active tiered storage environment. Specifically, in the Buffalo Surveillance Server the information repository is the collection of all of your networked Buffalo Surveillance Server NAS devices.

Ingesting

Also referred to as "capturing," ingesting refers to the process of using Buffalo Surveillance Server clients to get data into the Information Repository. Capturing video from RTSP enabled IP -cameras is a type of ingesting.

Interface

In this help documentation, "interface" refers to a Buffalo Surveillance Server application.

Load Balancing

Load balancing refers to keeping job loads and data distributed throughout the Information Repository. Buffalo Surveillance Server queries each Vault regarding the availability of storage resources that match the requirements of the files to be processed. It then negotiates a connection with the Vault that best matches files' lifecycle requirements and copies the files to Vaults. When there is more than one candidate Vault that matches the client's criteria, the client makes a determination based on which Vault is most readily available and has the most free space. Through this process, the network remains load balanced.

Locator

The Locator comprises components in Buffalo Surveillance Server's extended client/server architecture that make it possible to link clients and servers together dynamically and only as they are needed. Instead of network clients being hard-coded to work with only a single server resource, the Locator makes it possible for any network client to take advantage of any server resource.

Low Resolution Proxy

Low resolution proxies (also called **companion files**) are playable videos, created by Buffalo Surveillance Server when data is captured or ingested, that are a fraction of the size of stored original files. They enable the user to quickly retrieve and visually peruse stored video files in their entirety and select and retrieve only clips from large, stored originals when the entire original is not needed. Because low resolution proxies always remain on-line, even when original files are taken off-line, managed data remains fully searchable.

Media

"Media" refers to containers, within Buffalo Surveillance Server Vaults, on which data is stored. There are various types of media, including hard disk, tape, CD, DVD, and Blu-ray. Hard disks are sometimes referred to as "virtual media"; CD, DVD, and Blu-ray are sometimes referred to as "optical media". Tape is sometimes referred to as "physical media".

Metadata Catalog

Metadata is "data about data". It is structured data which describes the characteristics of a data asset. In can include information such as how and when and by whom a particular set of data was collected, and how the data is formatted.

Metadata catalogs reside in Vaults and servers and contain metadata files. The Vault uses a portion of its host computer's hard disk to house the primary working copy of the metadata catalog. This catalog will grow in direct relation to the amount of data stored in the Vault.

The ratio between the size of the metadata catalog and the Vault's data store is an average of 1%. This can vary based on the length of a file's pathname of origin and the average file size. For example, small files with long pathnames will result in a higher catalog to data store ratio than large files with short pathnames. The metadata catalog is replicated for safety and redundancy. Every unit of media used to store data is equipped with the metadata of the data it contains, which is updated every time the media is utilized. A metadata file is created for every file managed by a Buffalo Surveillance Server Vault. The metadata file contains information about the files in the Information Repository, including file name, pathname, original owner rights, ACLs, date and time stamp, file size, file type, and the file's stored location. This information is used to track and manage files while they are in the Information Repository. It is also used to provide a quick response to queries about files required for retrieval.

Object

As used in this help documentation, an "object" is any thing that can be clearly identified apart from other things. For example, networks, computers, drives, folders, files, icons, etc.

On-Media Catalog

The On-Media Catalog is the metadata catalog, stored on every media unit, that contains metadata for all the files. The on-media catalog is an Information Repository safeguard. Should a Vault catalog become lost or corrupted, the on-media catalogs are used to rebuild it.

OS

OS is an abbreviation for Operating System. For example, Windows, OS X, Linux.

Pathname

A pathname is a sequence of symbols that denotes the location of the file or directory by outlining the route or "path" from the host name (if the file resides on a remote server), through the directory structure, to and including the final filename or directory name.

Each directory name (in the series of names that compose a path) is separated by a symbol, called a "delimiter", such as a forward slash (/) or a colon. A "leaf" refers to the component of the file name between delimiters. For example, in C:/development/test/Build132.xls, the forward slashes are delimiters and development, test and build132.xls are leafs.

When entering pathnames in Buffalo Surveillance Server, only the forward slash (/) may be used as a pathname delimiter. If a file is located in the current working directory on your computer, it is referred to by only its filename.

Permissions/Rights

"Permissions", also known as "rights", refers to rules that determine how users (aka, "roles") are permitted to interact with given files or Vaults.

RTSP

"RTSP" stands for Real Time Streaming Protocol. RTSP is a network control protocol for use in entertainment and communications systems to control streaming media servers. RTSP is used to establish and control media sessions between end points. Clients of media servers issue VCR-like commands, such as play and pause, to facilitate real-time control of playback of media files from the server.

Secondary Storage

Secondary storage is synonymous with external storage and auxiliary storage. It refers to data storage that is not currently in a computer's primary hard disk storage or memory.

Source

Source refers to the location from which data is captured, ingested, or extracted.

Storage Pool

A storage pool is one or more pieces of media grouped, by storage pool name, for a common use. Additional media can be added to storage pools at any time, and searches can be limited to single storage pools comprising countless units of media, regardless of which Vaults the media resides on.

URL

URL is short for Uniform Resource Locator. A URL is a resource identifier that specifies where an identified resource is available. Buffalo Surveillance Server uses the URLs of RTSP enabled IP cameras to connect them to Buffalo Surveillance Server.

Vault

A Vault consists of a storage device used to store files and a computer host that drives the storage device and provides computing and memory resources for program execution, metadata management, and on-going monitoring and management. A Vault can utilize hard disk, single tape, tape autoloaders, tape libraries, and optical media as storage resource. A single computer can host up to four Vaults depending on the resources and capabilities of the computer and the scale of the hosted storage device.

All computers in the Information Repository that contain Vaults and any VMS system that video is captured from must be synchronized to the same time source for the Information Repository to function correctly.

Vault Catalog

Vault catalogs reside in Vault memory and contain a listing of all of the files and metadata stored to media on the Vault and that is off-line but still being tracked.

Version Number

Buffalo Surveillance Server uses a numeric version numbering scheme according to which every release has a unique, four number identifier: four numbers separated by periods, such as 2.4.13.1. These numbers represent the following: <major>.<minor>.<revision>.<build>. In other words, the first number of the series is the number of the major release; the second, the minor release; the third, the revision; the fourth, the build of the revision.

Video Lifecycle Management

Video Lifecycle Management (VLM) is a video aware subset of Information Lifecycle Management, providing a comprehensive approach to managing captured video and its associated metadata from creation and initial storage to the time when it becomes obsolete and is deleted. Unlike other approaches to video data management that just automate storage procedures, such as hierarchical storage management (HSM), VLM involves all aspects of dealing with video, starting with user practices. Also in contrast to other systems, which rely on video age as the sole criteria for video storage and retrieval, VLM manages metadata such as camera names, camera locations, and motion detection data (to name a few). This enables the utilization of more complex criteria for storage management and video retrieval.

View menu

The **View** menu enables you to select **Enable Tool Tips** and **Enable File Tips**. Tool Tips are brief descriptions of window controls that appear when you hover your cursor over a control. A File Tip is a file's full name, and it appears when you hover over a file name that is not fully visible in the file tree frame.

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